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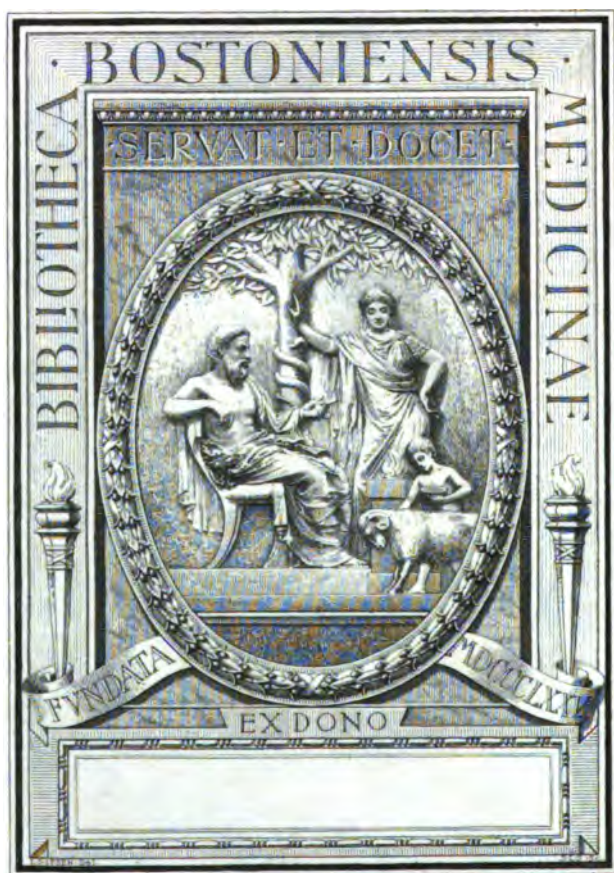
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THE
MONTHLY CYCLOPÆDIA
OF
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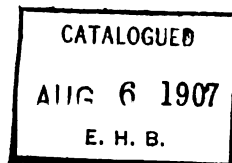
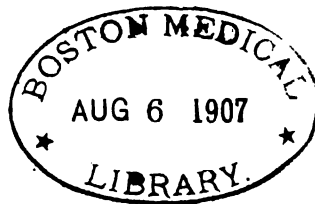
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Editorials.

DEPARTMENT IN CHARGE OF
J. MADISON TAYLOR, A.M., M.D.

THE SURGICAL DISCOUNT OF THE FUTURE.

ONE of the most surprising things about the present surgical period is the recrudescence of old ideas which it was fair to suppose had lived their day. It assumes a new form and a new direction, but it is easy to recognize the old idea in

a thin disguise. The only harm done is that it is a setback to progress. When a theory has lived its day and has not met the inexorable test of time, it ought to be executed and buried without benefit of clergy. That some think they see in this revamped method a new, or a restoration of an old, truth, matters but little, for these are not the men to whom we look for the logical clarity that establishes axiomatic principles, or the final settlement of methods.

This train of thought is suggested by the fact that at the spring meeting of the American Gynæcological Society, held at Niagara Falls, a number of Fellows, in the course of a debate, claimed that they never opened the abdomen without removing the appendix, irrespective of the fact whether it was normal or not. One followed the other to claim that this was his routine practice. Strangely enough the size of the town was inversely to the number of his secondary appendectomies, if they may be so termed. As yet no dissenting voice had been raised, but the debate was brought to a ridiculous climax by a guest from a small Western town, carried away with enthusiasm, announcing the fact that he had made fifteen hundred celiotomies, in the course of which he had made thirteen hundred appendectomies. The experience of this young man so far exceeded that of any other operator that it appeared that nothing was left to its advocate to claim.

At the afternoon session several men denounced the method as bad surgery, both in theory and practice. It is doubtful if anything more is ever heard about it in the society.

This idea in the surgery of women is not a new one. Those who are old enough to have been through the stress of gynæcic surgery as it was evolving from its chaotic condition into something like sanity, will recall the line of argument by which the gynæcologist of twenty years ago made it appear like malpractice that if you removed one ovary you did not remove the other, lest it also become diseased and the woman made to undergo the hazard of again opening the abdomen. The fear was the danger of opening the abdomen a second time, which transcended the value of a normal ovary.

Fixed delusions die hard. Respect for the sanctity of dry peritoneum was an inherited surgical limitation. It was a guiding instinct twenty years ago, strong enough to overcome the respect due to a normal and important organ. We all know what became of this absurdity. It marks, nevertheless, a shameful chapter in the surgery of women. In the light of this debate in the Gynæcological Society, it appears that this idea is yet a factor that shapes the conclusions of some men. The surgical discount of the future, the need of doing something more than one set out to do, lest some imaginary danger may result from it, is the old idea shifted to new fields of surgical exploit.

It is possible that there is, in the case of the appendix, a mixed motive joined

to the hereditary respect for the abdominal cavity. This is the very reasonable dread of the enormous fatality attending appendectomy when disease exists in this region of the intestinal tract. If then, the part can be removed when there is nothing the matter with it the surgical future of the individual may be made reasonably sure. It is impossible to predict of any healthy part when, if ever, it will become diseased. To remove it when healthy, simply because its future safety cannot be assured, is both bad and meddling surgery. It is not the surgeon's business; if it is, why does he limit his attention to the appendix? The gall-bladder is a frequent offender and ought to be removed for fear of concretions. Why not reinforce suspension of the right kidney by a few extra sutures to meet a possible ptosis of the organ? If the argument is valid it is a manifest neglect of duty to overlook any part which will jeopardize the surgical future of the woman.

Further, if the contention of our over-enterprising colleagues is correct, it is almost painful to reflect upon the advantages enjoyed by women over men from the greater frequency that her abdominal cavity is exploited by the surgeon and the opportunity thus afforded to remove organs which may, in the future, give possible offense. In view of the correctness of this attitude, how fearful and solemn are the responsibilities of those who incline to the opposite conservative contention. He can only point with warning finger to the past and the frequency that surgery of this character has required the rewriting of many chapters full of mischievous error.

Nothing said here must lead the reader to conclude that the removal of organs which are diseased, or which give a tangible threat of disease, is not a wise surgical proceeding. This is, however, a different matter from the removal of a normal organ which under the law of probabilities may never become diseased. The character of the men who took part in the discussion calls for something more permanent than the few words thrown off in the haste of debate.

This leads up to another phase of modern surgery and one having special reference to gynæcic surgery, namely, multiple operations. If there was any necessity for it, if it conserved any useful purpose which accrued from the women's condition, it could not be criticised, but as a matter of fact logical considerations have nothing to do with it. The sole motive behind the idea is to do all that may be done, or can be done, at one time. Any surgeon who carefully looks after his own patients will have no difficulty in observing the reaction in a patient who has had all the surgery that her nerve centers can sustain and one who could have stood very much more. In one class of gynæcological operations the multiple form is a decided disadvantage. This is in genito-plastic operations. This may be said to be the fine art of surgery. Men who are expert in ablation surgery—the hysterectomist, the oophorectomist, and others of that cult—generally are satisfied in plastic sur-

4 THE ASPECTS OF SIMPLICITY AND COMPLEXITY IN MEDICAL RESEARCH.

gery with a success of a certain kind. The ideal plastic surgery is made step by step, each one leading up to the final completion. This implies that we take more time. But if it requires more time, to whom is the time saved credited? Surely not to the patient, for if the case were candidly stated to her that we could do better work by taking more time, I have never found her calling for haste at the expense of assured results.

A wise surgeon, one who has earned great renown in the surgery of the liver, has said, that the temptation was to do too much. His one guiding principle was to do what he set out to do in the simplest possible way and then stop. Avoid multiple operations in the surgery of the liver; it were better to operate later than do too much at the beginning. When we consider that all surgical operations are for the purpose of restoring health, or conserving life, haste ought never to be an element in the method, unless gravity in the condition of the patient calls for it. Multiple minor operations, combined with major, occur so rarely as a matter of necessity that it may be considered negligible. The only party to be benefited is the surgeon by the saving of a little time, but as his time belongs to the patient who has paid for it, the moral element is a contingent that he must settle with his own conscience when he retires to his closet for the self-communion which would do us all good if we practiced more.

ELY VAN DE WARKER.

THE ASPECTS OF SIMPLICITY AND COMPLEXITY IN MEDICAL RESEARCH—A DISCUSSION OF THE PRINCIPLES AND METHODS IN VOGUE, WITH AN ANALYTICAL DIGEST OF THE WRITER'S EXPERIENCES AND SCOPE OF RESEARCHES AND ACHIEVEMENTS.

SINCE Faraday, an essentially non-mathematical physicist, attained the very first place among the physicists of the world, at a time when little was known of the physical laws now known to us, and attained largely independent of the computations that even then filled volumes, and moreover were based on erroneous foundations, and thence multiplied, no intelligent observer, in the active practice of medicine need fear to study and deduce on the clinical manifestations observed, and publish to the world the result of his best thought on the subject; and notwithstanding that the medical world has its attention attracted to *laboratory* researches in physiology, biology, zoölogy, and particularly in bacteriology, upon which it depends for deliverance out of the wilderness and darkness of ignorance.

The beaten paths are not those which generally lead to new discoveries in any field. This is universal history, and it has been the personal experience of the

writer, who has been enabled by an admixture of a little interest, a vein of curiosity, for the solution of the apparently unsolvable problems and a disposition to delve into the hidden mysteries of the unknown in the medical sciences, to accomplish what well-equipped laboratory workers had not.

In a combined capacity of private practitioner in chronic diseases and director of a sanatorium—private hospital—of but seventeen beds, in a Western town of thirty thousand, the writer began a series of combined clinical and laboratory observations in 1894 upon new and original lines of investigation in new fields of research, and as we shall see later, using new indexes of physiologic and pathologic states. Moreover, while the nature of the problems studied were of the most fundamental character, yet they did not demand the extensive laboratory facilities of most investigators of the present day, though they required a good microscope and accessories, a fairly complete set of reagents and some physical implements and apparatus. Many physicians are sufficiently equipped to perform all of the experiments of my early researches, and with just as good, if not better, results.

The more fundamental the character of research work, the more simple and easy its accomplishment, and the greater its importance and the more far-reaching its applications. Conversely, the more complex the nature of the investigated phenomena, the more complex and intricate the experiments, the narrower is their scope of application, and the smaller the importance and value of the attained result.

I admit that the fundamental work of the line of research I have chosen has been largely covered in the eleven years I have devoted to it, and that the subsequent work must be of a more complicated nature and of narrower applicability, but my plea is for other men to select new channels of investigation, remembering that "there are as good fish in the sea as ever were caught." My emphatic admonition is: begin any line of research, with its fundamentals, and work gradually into the complex. Avoid the converse of it; above all, steer clear of the well-trodden paths, and the field of the already overgrown bacteriology, which must yet suffer much undoing and reform at the hands of the well-founded chemical biologists and physiologists of the future, who will occupy and operate the great research laboratories.

Lastly, *experiment* less and *think* more; perform no experiments except for the express purpose of determining some definite fact of some practical importance, and in deducing from the findings. Be sure to do it so correctly that no one else will follow later with a more correct result or interpretation of it. Insure compatibility of all connected and related facts.

Finally, do not be afraid to theorize; there is not enough of this. Not only give subjects your best thought, but speculate on their many attitudes and theorize

freely regarding them. Remember that "things are seldom what they seem," and that the first suggested and easiest interpretation is not the most correct one. It is well to cultivate slowness of conception of scientific truths, in order to avoid grasping them by the wrong end. Never formulate a theory for publication until it has been well considered from all sides and in the light of related contemporary knowledge. When incompatibilities are found, they must never be ignored, but investigated to a point of determination which of the incompatibles is correct and which is erroneous. This causes frequent digressions and is, more than any other, the cause of widening the scope of one's labors far beyond that originally designed.

Prof. Karl Pearson, the eminent English scholar, has recently affirmed that not less than one-half of the total aggregate of research experiments are worthless. The writer's verdict is that 75 per cent. of the total experiments performed are nothing more than trifling with scientific problems, the results of which are without point or significance and hence without practical value.

Never isolate cause and effect, or waste time pondering over effects which are of unknown origin, or in which the relations connecting the effect with the cause have not first been traced or worked out.

In general, follow simple lines and processes, avoid intricacies and complexities as far as possible. Attack the complex, always from its simplest aspect; never the simple from its complex side; and by keeping well toward the fundamental origin, the causative end of it, the above admonitions are comprehensible.

With considerable trepidation, a full sense of the delicacy of alluding to one's own achievements, and I trust with becoming modesty, I will refer to some of the results of my own contributions to the elucidation of the physical and chemical bases of life, in its physiologic and pathologic relations; and in so doing, I will endeavor to render comprehensive, by illustrations, my principles and methods, as above outlined and commended to others.

A fundamental conception, pervading my work, is based on the principle that animal protoplasm is not so essentially different from other forms of matter, but that it obeys and conforms to the established general laws of chemistry, physics, and mechanics.

Among my contributions to the medical sciences, during the last half decade, the outgrowth of the above mentioned laboratory and clinical studies, and I freely admit I have learned far more from the latter than the former, may be mentioned, *in etiology*, studies into the fundamental bases and characters of etiological factors; their physical, chemical, biological, physiological, and pathological origin, action, and resulting reaction; developing a new conception of the nature and action of causative factors, namely, tracing them to a homogeneity of ultimate proclivities, and their common reaction manifestations to a definite orderly series of stages of

graded expressions of protoplasmic response. The protoplasmic characters typical of the stages of its responsive manifestations have been determined to comprise and elucidate the phenomena of tension, tonic, then clonic contraction (tetany and convulsions; imperfect tetany), atony, flaccidity, watery transudation (mucous, serous, and vascular), serum transudations, whole blood transudations (hæmorrhagicas), disorganization, disintegration, liquefaction, putrefaction.

This series in abridged form corresponds with the reaction degree series of the most rudimentary forms of animal life, namely, the simplest forms of unicellular organisms, owing to which fact I have denominated them *the biologic series*; for example (1) stage of hyperæsthesia, (2) stage of contraction, (3) stage of flaccidity, (4) stage of disorganization, which includes those of all degrees of permeability, (5) stage of disintegration and liquefaction (including the intermediate stage of colloidation).

Dividing the series in two parts, the middle of the stage of contraction being the meridian, we have the analogue of the two-stage series of *stimulation* and *depression*, of many writers.

The etiologic significance of the biologic series is developed in its application to the elucidation of the nature of a great number of pathologic manifestations. The stage of hyperæsthesia is the basis of many hyperexcitabilities and hypersensitiveness, which we have been accustomed to call *nervous*, and later learned to associate with auto-intoxications. The stage of contraction is the foundation of all tetanic contraction, and as the basis of all cramps, paroxysmal and spasmodic contraction, is the morphologic expression of pain, which ranges in sharpness and intensity with the acuteness and violence of the contraction. This stage represents that part of the symptomatology of diseases, characterized by different phases of pain, from the most vague pains of rheumatism to the most acute of neuralgias.

The incomplete tetany or breaking integrity of the tetanic contraction, a recovery manifestation, is identified with the clonic contraction (convulsions) which follows the tonic contraction, in epilepsy as the relaxation is attained by virtue of arrival at the fatigue limitation. This manifestation is to be differentiated from twitchings, tremors, spasms, and other forms of imperfect and transient contractions which do not persist as tetanic contractions, as do those in epilepsy, unto a fatigue (exhaustion) relaxation, or in tetanus, until death releases the "eternal grip."

From the point of normal tone to the acme of the contraction stage of the biologic series, we have exhibited a series of manifestations which are the prototypes of the symptoms of the so-called functional diseases, and biologically they represent what is termed response phenomena. From the contraction stage climax, forward, however, we have manifested a metamorphosis which we will consider under the head of

MORPHOLOGY.

Concomitantly with the breaking integrity of the tetanic contraction, we have exhibited a fall in the specific gravity of the parenchyma, which leads through a series of stages, first following the relaxation, flaccidity, the rarefaction finding expression in expansion and elongation of the parenchyma in general, and in the extension of equilibrium length of striated muscle. The next stage, the disorganization feature of the decadence is perceptibly exhibited by fusion of the collagenous and other inclusions of cell differentiation with the protoplasm.

Continuing the retrogression, following the protoplasmic rarefaction, involving a parallel lowering of the osmotic pressure, water absorption, and moreover a "phagocytosis" of progressively coarser and coarser particles of environmental particles of matter, the retrograde metamorphosis proceeds to a stage of permeability to water, resulting in transudation infiltration, œdema, etc., and next following to a stage of permeability to blood, as expressed by hæmorrhages, extravasations, and infarctions, purpuras, etc., and hæmophilia.

The next succeeding stage is dominated by colloidal and liquefaction, disintegration of the substance, which up to this stage has preserved a semblance of its former structure, though it is a disorganized and gradually thinning fused gelatinous mass.

Finally, the last stage, though not always exhibited, is the stage of putrefaction, which is dependent upon the presence of hydrogen or water for its occurrence.

Connected with and independent of the above series of progressive morphologic stages, I have been enabled to work out etiologic explanations of hyperplasia, hypertrophy, induration, atrophy, colloidal, liquefaction, putrefaction, so-called fatty and calcareous degenerations, cardiac and vascular dilations, arteriosclerosis, arterio-capillary fibrosis, laws governing parenchymatous tissue density; longitudinal extension of muscles, cords, ligaments, tendons, and the general stretching out of aponeurotic structures and supporting membranes; the underlying factors of visceral ptoses, intussusception, prolapse of hollow viscera and female reproductive organs, hernias, hæmorrhoids, vascular dilatations (aneurisms), and varicosities. All degrees of fluid transudations, exudations, infiltrations, extravasations, infarctions, ecchymoses, petechiæ, angiomas, hæmorrhagics, œdemas, catarrhal conditions, etc., are explained.

The identification and interpretation of disease have been thus facilitated by the recognition of the definite morphologic relations and their manifestations of the biologic series, and especially the specific gravity factor, as new indexes of physiologic and pathologic status, and thus new fields of research and observation have been opened.

The state of neoplastic malignancy has been reduced to a morphologic basis, and tissue characters which have been meaningless, are now definitely understood and easily identified. Especially have metabolic diseases been traced to morphologic bases, and metabolic conditions identified with their material relations of cause and effect.

Chemical, physical, and biological attributes of morphologic characters have been already evinced and their inter-relations shown. Etiologic factors have been classified and their nature, immediate and ultimate morphology, revealed.

In the realm of *symptomatology* we have, in the definite orderly series of response manifestations, a complete relative and basic exhibition of the perceptible expressions of pathologic sequence. From the gross characters of tissue reaction of stimulation and irritability, on the one hand, to depression and anæsthesia on the other. The morphologic bases of pain, I consider no less important.

The elucidation of the significance of the symptoms of disease has not been confined to the divulged relations of morphology, but has been extended to such general syndromes as malaise, vertigo, anorexia, nausea, vomiting, foul breath, furred tongue, pallor, chilly sensations, parched skin, and more or less pyrexia, which, as a syndrome, has been found to be a general train of symptoms expressing a systemic condition of early stages of subcatabolism, however produced, whether by vitiated, humid, or rarefied atmospheres, poisons, auto-intoxications, parasitic toxæmia, shock, fright, etc., or, in a word, suboxygenation, subalkalinity, or subcatalysis, on sudden onset.

Between the responsive manifestations and the molecular retrograde metamorphoses, the biologic series compasses the entire life cycle of living substance, in both rudimentary and compound forms of life; thus connecting life phenomena with its physical, chemical, and material dependencies.

The biologic series confers upon science a basis for a new pathologic nomenclature, far more accurate and definite than the present one, or any founded upon a bacterial basis, now advocated by some, which would be the most unfortunate calamity medicine ever encountered.

My future endeavors will be devoted to widening and extending of the physico-chemical bases of life and of disease, and the applications of the present and future developments to the entire scope of pathology.

HOMER WAKEFIELD.

HINTS FOR THE INTERPRETATION OF URINALYSES. (Concluded).

THE proteids found in the urine are as follows: Serum albumin, nuclealbumin, globulins, albumoses, peptones, Bence Jones albumose, hæmoglobin, fibrin, histon, and nucleo-histon. Clinically, serum albumin is of the most importance,

and the term albuminuria applies to urine containing this substance or globulin (coagulable proteids).

The classifications of albuminuria vary somewhat to suit the taste and convenience of clinicians and authors in discussing the subject, they may be conveniently divided into; the false or accidental albuminuria, due to local conditions, where we have the presence of some albuminous exudate, as pus from an abscess, cystitis or urethritis, discharges from a prostatitis, menstrual, and other vaginal discharges, and the admixture of blood and lymph with the urine in its course through the urinary tract; and the true or renal albuminuria. To differentiate the types and determine the source of the albumin, and when we have a local condition associated with albuminuria where there is a question as to whether the albumin originates wholly from the local condition or is in part due to renal changes, one should always combine with the chemical, a microscopical examination of the urinary sediment, and a thorough physical examination of the patient, and not, as is too frequently done, jump at conclusions in making a diagnosis, and prescribing a line of treatment that will be partially or wholly wrong.

The types of renal albuminuria may be considered as follows:—

1. The so-called physiological albuminuria, a term that many question our right to use, which includes those that are apparently due to no abnormalities; in this may be included certain alimentary albuminurias following the ingestion of large amounts of proteids by persons who are apparently in the best of health. Some claim that traces of albumin occur in every normal urine, while others maintain that this is not true, and the occurrence of physiological albuminuria has been the subject of much controversy.

2. Functional albuminuria. This includes *transitory*, found in many individuals after violent exercise, cold baths, dietetic indiscretions, etc., and *intermittent*, occurring in poorly nourished and anæmic children, and in some adults who have undergone severe and prolonged mental and physical strain; other cases will be apparently in good health. This type may last for several days or weeks, followed by a disappearance of the albumin and again by a reappearance. When the condition follows a definite course and appears at regular intervals it has been termed cyclic albuminuria; the cause of these conditions is frequently puzzling, casts are rarely present, and the amount of albumin small. Many of these cases are probably due to slight alterations in the kidney epithelium, caused by the action of some irritant; other cases are referable to circulatory disturbances. In a few such cases a true nephritis will develop later in life, while in many the albumin will disappear and the individual present no abnormalities. I have seen a number of cases of transitory albuminuria in children, discovered during a routine examination of the urine. No pathological condition could be demonstrated, the individuals being to

all appearances in perfect health; some of these cases I have had the opportunity to watch closely; sometimes albumin would be absent for weeks, and when present was usually found in the afternoon and evening urine; diet and exercise did not seem to influence it in any way, and it is hard to believe that the albumin in these cases has any clinical significance.

In pregnancy an albuminuria frequently exists, due in some cases to metabolic and in others to circulatory disturbances. This is usually transitory; however, in some cases there is developed a true nephritis which persists. Every one knows the grave symptoms which may develop during pregnancy and the puerperium, and that the urine should be closely watched to guard against these occurrences.

3. Circulatory albuminuria; seen in cases of uncompensated cardiac diseases, emphysema, hepatic cirrhosis, and other conditions. This results from changes in the kidney due to altered blood-pressure. The amount of albumin found in these conditions is usually small and frequently contains a few hyaline casts.

4. Febrile albuminuria. In the various febrile diseases albumin is frequently present in the urine; the statement that this is due to circulatory disturbances is occasionally encountered, but is it not more plausible to consider that in the majority of cases it is caused by a direct action of the poisons on the renal tissues? A true nephritis may develop during the course of one of these diseases, and during convalescence the amount of albumin will increase and numerous casts be found. In mild cases the albumin rapidly disappears during convalescence; if it persists for more than a week we should look for and guard against a relapse: in severe cases the albumin persists for a longer time. The amount of albumin is often an index of the severity of the infection.

5. Toxic albuminuria: results from poisoning with ether, cantharides, turpentine, phenol, salicylic acid, iodine, phosphorus, arsenic, lead, alcohol, the mineral acids, etc. The kidney changes may be of a degenerative nature or caused by circulatory disturbances, depending on the character of the toxic substance.

6. Hæmatogenic albuminuria (hæmic albuminuria). This is observed clinically in various blood diseases, such as purpura, scurvy, leukæmia, pernicious anæmia, and some place in this class the albuminuria of syphilis, jaundice, and diabetes, also that of lead and mercury poisoning; the albuminuria in many of these diseases is probably dependent on the degenerative changes in the organs, commonly met with in these cases.

7. Neurotic albuminuria. Many of the obscure cases of transitory albuminuria might rationally be ascribed to nervous disturbances, and at the same time it must be said that the albuminuria found in certain nervous diseases might readily be attributed to circulatory and other disturbances. Albuminuria is not found in nervous diseases with any degree of regularity; the condition when present is usually transitory, and for diagnostic purposes is unimportant.

8. Albuminuria of nephritis. The amount of albumin varies greatly according to the type, stage, and severity of the disease, and in studying the diagnosis and prognosis in kidney diseases not only the albumin and casts, but changes in other urinary constituents must be taken into consideration. In acute parenchymatous nephritis the amount of albumin is large, and in the hæmorrhagic forms increased by the transudation of blood, the urine contains numerous casts of various types, as hyaline, epithelial, dark granular, and not infrequently waxy and blood casts; pus casts and leucocytes are sometimes present, depending on the cause of the nephritis; the amount of urine is diminished, the urea, chlorides, and phosphates are reduced. In chronic parenchymatous nephritis the amount of urine is diminished, the specific gravity normal or low, normal constituents decreased, the amount of albumin large, urea diminished; various types of casts are found, prominent among these are the large, dark granular; when the stage of contraction is reached the amount of urine increases, the specific gravity is low, the amount of albumin decreased, the casts are still numerous; in some cases the albumin may almost disappear, and only a few casts of the hyaline type can be found. With an acute exacerbation the amount of albumin will become large and numerous casts appear. In chronic interstitial nephritis the amount of urine is often greater than normal, and is never scanty excepting in the last stages, the amount of albumin small, the casts present are usually hyaline and pale granular; during the later stages, toward the termination of the case, the urine becomes scanty, the specific gravity increases, and the amount of albumin is greater; casts are more numerous, the dark granular type becomes prominent, the urea diminishes; when this condition becomes manifest uræmic symptoms frequently develop. The urine of cases of amyloid kidney differs from that of certain other forms in that we find serum globulin increased, and the presence of glistening waxy casts; fatty casts and fatty epithelium may be found; the urea and other constituents are, as a rule, but slightly diminished.

In men past 60 one not infrequently finds a few pale granular and hyaline casts, with or without, a trace of albumin. In these cases there will be found slight circulatory changes, and many of them have been greatly frightened by being told of these findings, when there was absolutely no cause for alarm. As one physician of prominence has said to me in conversations on the subject: "They have a right to them." Albumosuria is found in a variety of conditions, and is sometimes of diagnostic importance; in other cases it is of little or no value. One form, which is referable to the disintegration of pus cells in the body, is found during the stage of resolution in croupous pneumonia; it is also present in pyothorax and other conditions in which there are large accumulations of pus in the system, and in epidemic cerebro-spinal meningitis.

Another form "hepatogenic" is noted in certain diseases of the liver, as acute

yellow atrophy. Albumosuria has been found in a number of intestinal diseases, as typhoid, tuberculosis, carcinoma, etc.; also, in scurvy, various forms of poisoning, during pregnancy and the puerperal period; in various infectious diseases, and, in association with leukæmia, nephritis, apoplexy, myxædema, etc.; albumose frequently accompanies albumin. A proteid of a peculiar nature, "Bence Jones albumose," has been found in the urine of patients affected with multiple myelomata and osteomalacia.

Nucleo-albumin occurs in normal urine in traces; it is sometimes found in large amounts in the urine after violent exercise; in the new-born; in inflammations of the mucous membrane of the urinary tract; in leukæmia, acute infectious diseases, jaundice, and after chloroform narcosis. It is frequently observed in cases of functional albuminuria, and sometimes persists after serum albumin and globulin have disappeared.

Hæmoglobinuria is produced by the action of certain poisons, as potassium chlorate, arsenic, hydrogen sulphide, naphthol, hydrochloric acid, iodine, phenol, etc.; it may occur in the course of the infectious diseases, and, according to some, in malaria. True hæmoglobinuria is rather uncommon, and should not be confounded with hæmaturia, which is more frequently observed.

Hæmaturia may be due to various lesions of the kidneys, ureters, bladder, prostate gland, and urethra. Many times the determination of its origin is extremely difficult; catheterization of the urethra and ureters and cystoscopic examination are, not infrequently, necessarily employed to aid in the diagnosis. Urine containing blood should always be submitted for examination as soon as possible after it is voided, as immediate examination will often enable one to determine its source, and this would be impossible after it has stood for a time.

Hæmatoporphyrin is found in the urine in cases of chronic sulphonal, trional, and tetronal poisoning; and occasionally in cases of rheumatism, pericarditis, phthisis, Addison's disease, exophthalmic goiter, various hepatic diseases, and lead poisoning. In some of the diseases in which it has been found the question as to whether or not it is due to the disease or to the action of some drug arises.

Pus is found in any suppurative condition of the genito-urinary tract. Its source is frequently difficult to determine; a microscopic examination will often enable us to determine its origin.

Fat may occur in the urine in various conditions such as eclampsia, diabetes, tuberculosis, phosphorus poisoning, nephritis, leukæmia, and obesity; it is found in small amounts where there is a fatty degeneration of cells taking place in the urinary tract.

Carbohydrates.—Traces of glucose exist in normal urine; the amount is extremely small and special methods are necessary for its demonstration. Glucose

is found in all forms of diabetes mellitus; in the so-called alimentary glycosuria, due to an excess of carbohydrates in the food; following the use of certain drugs, such as phloridzin, chloroform, amyl nitrite, opium, atropine, etc.; after inhalation of illuminating gas and in acute and chronic lead poisoning; frequently in cirrhosis of the liver; after severe cerebral injuries, following an attack of apoplexy, and in many nervous disorders. In Basedow's disease a glycosuria, usually transitory in nature, frequently exists. A persistent form, which is of some diagnostic value, is noted in certain cerebral lesions, other accompanying symptoms serving to differentiate them from true diabetes. Cases which persist are usually diabetes mellitus; and when acetone, di-acetic acid and beta-oxybutyric are associated with glycosuria, this condition is always indicated; the appearance of these substances indicate the approach of grave symptoms. Lactose is at times found in the urine of nursing women; other sugars, as l  vulose, maltose, and pentose, have been found in diabetic urine; the latter has been found in the urine of morphine habitu  es.

Acetone, di-acetic acid, and beta-oxybutyric acid are found in the urine of diabetic patients. Acetone is also found in those suffering from starvation, which includes those cases of   sophageal and gastric carcinoma that interfere with the ingestion and assimilation of food; in various digestive and some acute infectious diseases; in certain nervous diseases, as general paresis, epilepsy, tabes, and melancholia; it is frequently found after ether and chloroform narcosis. The presence of di-acetic acid is always to be looked upon as decidedly abnormal, and is usually an indication of some severe metabolic disturbance; it appears in the later stages of the diseases in which acetone is found. Beta-oxybutyric acid occurs in the same conditions as acetone and di-acetic acid; it always indicates a severe type of the disease, and its presence is of great importance, not only from a diagnostic but a prognostic standpoint.

The substance giving Ehrlich's diazo reaction, which for a long time was regarded as pathognomonic of typhoid fever, is not only found in this condition, but in many cases of acute miliary tuberculosis, tubercular peritonitis, pneumonia, measles, scarlatina, and other conditions. Still it is one of the important symptoms of typhoid fever, but its absence does not exclude typhoid, nor is its presence proof positive that the patient is suffering from that disease.

Bile Pigments and Acids.—Bile pigments are found when there is obstruction to the flow of bile from the liver, either in the capillaries, larger ducts, or the common duct, and may be present in certain infectious diseases; acute yellow atrophy, hepatic cirrhosis, especially hypertrophic; in acute and chronic inflammation of the gall-bladder, and in gastro-enteritis when the inflammation extends to the bile duct; their presence may also be caused by gall-stones in the common duct, or tumors pressing upon it.

Bile acids appear in traces in the urine when bile pigments are present, chiefly in cases of obstructive jaundice.

Melanin is found in the urine in cases of melanotic tumors, and its demonstration is of some diagnostic value; it has also been demonstrated in certain wasting inflammatory diseases when melanotic disease was absent.

Certain aromatic bodies are found in the urine in various pathological conditions, and are of some diagnostic value; the most important of these are indoxyl and phenol. Phenol is found in the urine following the ingestion of this substance or some of its derivatives, as salol; it may also be due to absorption from carbolyzed dressings.

Indoxyl (indican), formed from the oxidation of indol, is found in small amounts in the urine of healthy individuals; it is increased by a meat diet; pathologically it is increased when we have any condition in which there is an increase of intestinal putrefaction; some increase is frequently found in constipation; a moderate increase is noted in acute and chronic gastritis, intestinal indigestion, and some infectious diseases; it is abundant in cases of intestinal obstruction, marked atonic conditions, and paralysis of the intestines; it is also increased when albuminous putrefaction is taking place in the tissues, as in empyema, gangrene of the lung, etc.

Indol is found in the urine in cases of recto-vesical fistula, and its presence is of some diagnostic value in these cases; it must, however, be borne in mind that it may be present in some cases of pyelonephritis and cystitis, due to the action of certain bacteria.

Leucin and tyrosin are present in the urine in large amounts in acute yellow atrophy and phosphorus poisoning; they are also found in other diseases of the liver, as cirrhosis, catarrhal and obstructive jaundice, Weil's disease; and, at times, in small amounts in other diseases, as nephritis, tuberculosis, typhoid fever, erysipelas, glycosuria, etc.

In this paper we have discussed those points which at the present time appear to be of the most importance. It is true that views on the value of the estimation of certain constituents, and the cause and significance of some abnormalities are at variance, and many practitioners say that the matter is so mixed up that they cannot obtain much information from it; but when we consider it carefully it will be found that on what must be considered, at present, the most important points, the majority of investigators and clinicians are in accord; and if all physicians would, as some do, look upon the urinary findings as important positive or negative symptoms, to be studied in combination with and with the same care as other symptoms in all cases possible, they will find that urinalyses not occasionally, but fre-

quently, aid greatly in arriving at a proper diagnosis, and not only this, but in determining the prognosis and treatment of diseases which they may be called upon to deal with in their practice.

NATHANIEL GILDERSLEEVE.*

THE POTENCY OF SUGGESTION.

A PROPOSITION WHEREBY THE PRINCIPLES SHALL BE PRESENTED IN SUCCINCT
AUTHORITATIVE FORM.

HUMAN ailments, such as are referred to the physician, are compounds of physical derangements and psychical disorders in varying proportions. Sometimes the one or the other factor is at a minimum, but both may be assumed to be present in every instance. For the former, both functional disturbances and structural lesions, relief is to be had on lines of scientific adjustment of cause to effect, removing hurtful agencies and encouraging the inherent powers of the organism to resume control.

The principles on which this relief can be accomplished are fairly well understood; at least, the student of medicine is carefully instructed and usually to a degree of much practical effectiveness.

The mental and emotional phenomena are most difficult to estimate, to define, and hence to overcome, whether these be antecedent or consequent. Oftentimes these minor psychoses are obscure, or partially revealed, so little related to the other items of the case that the actual connection often passes unrecognized. Furthermore this subject of psycho-neurosis occupies little more than cursory attention of the clinical teachers; too many "important" matters filling the lecture periods.

Nine-tenths of all the patients who consult a physician exhibit mere functional derangements, and the treatment of these is usually successful on most varied if not contradictory lines; hence it is fair to assume that whatever of efficacy resides in the medication employed, suggestion must also be reckoned with as coöperative. It should, however, be a good and wise suggestion to be effective.

The physician may be fully alive to the forcefulness of this psychologic agency, yet himself possessed of meager resources, few variations, and only clumsy devices wherewith to control. When more complex natures are encountered among patients vitiated by distrust, prejudice, obstinacy, mental vagaries, deviations, or obliquities, especially after repeated failures on seeking elsewhere for relief, quite a difficult problem is presented. Here is a sick consciousness, a distorted spirit, a degenerate volition; normal impulses are not present to be stimulated by obvious measures.

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Furthermore, there may be, even admitting a fairly honest willingness to get well, no sincere desire for cure.

The fluctuating mental and emotional phases, lack of candor, of normal convictions, shifting from day to day or hour to hour, constitute a puzzle graver than some can solve. The parentage of disease is always more or less complex. Especially is this true when one disorder is consequent on others, grafted on inherent developmental defects, faulty training, morbid introspection, thwarted impulses, resentments, disappointments, in short, on misdirected energies plus erroneous points of view. Lingering ailments always involve nutritional impairments.

That man is the most successful general, and often special, practitioner who best appreciates and employs (consciously or unconsciously) the principles of suggestion. This skill is usually attained at haphazard, some instinct pointing the way or accident forcing it upon the attention. If the personal equipment includes tact, clarity of psychic principles, sufficient dominance, one may go far working on this basis alone. If the legitimate scientific physician is often defective in this direction, assuredly the charlatan is not. Hence, we are constantly meeting or hearing of our own and other's failures, persons who, becoming justly dissatisfied with the results from reputable and competent physicians who could only see less than half of the problem, have sought the help of divers quacks, of osteopathy, Christian Science, or of Dowieism, and are healed. Thus the potential of medical science, that invaluable something of faith in scientific measures, of saving efficiency, which should be felt toward the exponents of honest healing, is lowered or lost. The pity, the peril of it, has nothing to do with the individual medical man, or his reputation or his earnings. It represents a loss of wholesome ideals, a shrinkage in the personal estimate of the sufferer, in the surest, safest fountains of human wisdom.

What does it really profit if one, or many, individuals are relieved of distress, real or fancied, by false gods, humbuggery, erroneous ideals, misapplication, misinterpretation of fundamentals, provided a vitiated conception is engendered of those principles which sway, and shall always sway, humanity? Here is an ethical platform whereon the clergy should stand with us. It is of vital importance to each and every one. As medical science is the key to all human economics so is a clear conception of ethics, as expressed in the Christian religion, at the foundation of all spiritual economics. Unless the exponents of each achieve an adequate mental preception of the working principles of the other, calamities must ensue, even fatalities to mind and soul.

If these conclusions be admitted then it follows that there is needed a book containing a clear, concise, authoritative presentation of the laws common to both religion and medicine, dealing with those points wherein they come in contact. The

aims of clergymen and physicians have many points in common. A consistent and persistent coöperation between them would be followed by more satisfactory results. Commercialism in medicine occasionally obtrudes, but so slightly as to mark but little the cleanliness of purpose exhibited uniformly by professional efforts.

If both clergymen and physicians expect to accomplish the highest good, their energies must run parallel in certain directions. The culmination of their efforts should be the banishment of disease along with purification of the spirit, for as the spirit is refined and the body adjusts itself to this condition there must inevitably be a disappearance of those agencies which impair human efficiency.

Unfortunately, the viewpoint of the physician is in the main too material. Perhaps, by the same token the chief defect in religious teaching is toward too great transcendentalism. Hence there is an apparent antagonism, or at least insufficient coöperation, between these two governing forces. As has been said, that about nine-tenths of the ailments for which physicians are consulted have to do with psychic misinterpretation of actualities. Seizing upon this demonstrable fact religious sects have, from time to time, endeavored to usurp the function of scientific medicine, claiming that the practice of medicine is almost useless, if not actually pernicious.

The one sect which is most in evidence at present is that of the Eddyites, the so-called Christian Scientists. There are a number of other analogous beliefs before the public, many of them distinct improvements upon the teaching of Mother Eddy, and for various reasons which it is useless to discuss. These bear the names Mind Cure, Mental Healing, New Thought, or other terms designed to express the dominant thought that through the achievement of right mental conceptions physical ailments can be benefited or eliminated.

The fundamental propositions need no special proof; they are thoroughly well established among, and fully admitted by, the profession of medicine. It is true that individual medical men often fail to grasp these principles sufficiently, and it frequently happens that in certain cases they omit to cover both sides of the problem.

For a long time the importance of spreading abroad from an authoritative source a clear knowledge of the underlying principles of suggestion has led me to form a plan which I hope may be realized. This is to secure the coöperation of one or more thoroughly wise and experienced physicians, clergymen, and psychologists who shall jointly prepare a concise text-book upon the principles of suggestive medicine which shall serve as a guide for medical men, clergymen, and others.

There are many books and monographs extant dealing with this subject, but while often excellent in themselves are usually the expressions of mere individual opinion, hence, lacking in the concerted power which comes from joint action.

After having conferred with several clergymen and psychologists of leading influence, I offer a plan which ought to prove satisfactory. This is to construct a

book consisting of a series of essays on carefully selected divisions of the subject, the joint product of two or three each, physicians, clergymen, and psychologists, all of whom shall be recognized as competent to speak with authority upon the psychical side of human derangements, well informed on the literature and of ample personal experience in its practical phases.

It would be well to have also the assistance of a corps of collaborators, perhaps a score or more of eminent authorities, of fullest catholicism, representing the best departments of human thought and influence, and so broadly that statements they endorse may stand for acceptable finalities. After the outline of the book has been determined on, the different departments wisely distributed, all the material should be submitted to these collaborators for comments. Thus the project would be fairly acceptable on all sides and possibly by all sects.

It is scarcely conceivable that there could be any objections to the publication of such a work unless urged upon some narrow or selfish reason; therefore, its usefulness would be great as constituting a presentation of those fundamental truths, in their most practical aspects, which are most forceful for good in dealing with psycho-neuroses in all races and climes.

If believers in Christian Science, Mental Healing, Dowieism, Weltmerism, etc., are sincere in their desire to benefit men, singly or collectively, it seems impossible to think they would offer one word of objection to such a plan as the one outlined.

There is no doubt whatever but that both clergymen and physicians would welcome the contribution. Therefore, the only element of doubt stands as stated, and it would be a fair test of sincerity.

If, as can be assumed, it is the individual and joint desire of the forces enumerated to achieve the largest betterment of the world, it would seem that this could be done most definitely by urging the earnest sincere use of such a book.

J. MADISON TAYLOR.

Cyclopædia of Current Literature.

ALCOHOL, THERAPEUTIC VALUE OF.

Alcohol is not an efficient cardiac or respiratory stimulant, but when administered in frequently repeated small doses its action on the circulation may be regarded as favorable. In some conditions with a determination of blood to the interior of the body as indicated by cold extremities, livid skin, small pulse,

scanty urine, and high rectal temperature, a condition which has been described as bleeding into the splanchnic area, the administration of alcohol by dilating the superficial vessels and equalizing the circulation may be of considerable service. Alcohol may also be of value when given to counteract the contraction of the peripheral vessels in the

chill or rigor often associated with the onset of disease. Alcohol is not a stimulant to the nervous system. Its action is that of a narcotic, benumbing sensation including that of fatigue, allaying subjective symptoms, relieving nervous strain, and promoting rest. No other narcotic can be used so freely with so few injurious by-effects.

Alcohol in disease is a valuable food replacing carbohydrates, and, as a general rule, saving proteid metabolism. It places no tax on the digestive organs; on the contrary, if used intelligently it increases their secretion, thus in low and asthenic conditions assisting digestion and favoring absorption of other foods. In such conditions it may also have a favorable action on hepatic cells, stimulating them to increased activity.

In affections of all forms alcohol should be used cautiously. In such cases it may be of value to the system either as a food itself or favoring the digestion and absorption of other foods, but in large amounts it may and probably will do harm by destroying the resisting powers of the organism. The effect of alcohol varies much with the individual and its employment demands much discrimination and careful and frequent observation. It should be borne in mind that its prolonged use is liable to lead to degenerative changes in the heart, blood-vessels, and secretory organs. A. D. Blackader (Montreal Medical Journal, November, 1905).

APPENDICITIS, LYMPHATIC AND HEPATIC INFECTIONS SECONDARY TO.

From a general review of literature and 39 personal cases, the author concludes that lymphatic and hepatic infections are more common than is realized. The two infections are frequently associated, and one type may be the

source of origin of the other. In certain cases of hepatic abscess, the source of infection, whether through the portal canals or through the lymphatics, cannot be determined either clinically or at operation. The type of infection does not depend upon the gravity of the originating appendicitis. Subphrenic infections must not be isolated in a class by themselves, as they depend on both lymphatic and hepatic infections, and *vice versa*. Hepatic infections are not uniformly distributed even when originating in the portal tract, the left lobe being solely affected at times.

The prognosis of lymphatic (including the subphrenic) infections is better than that of hepatic, but, when the latter are secondary to lymphatic or direct mechanical invasion, the outlook is more favorable than in the true portal invasions. The most important clue in making a diagnosis is the recognition of the causative appendicitis, and the elimination of this possible cause is necessary in dealing with obscure hepatic invasions in the presence of plasmodia, the Widal reaction, etc. Early recognition and removal of the inflamed appendix may abort a secondary infection of the type considered here, but the corollary does not necessarily follow. The characteristic signs and symptoms are well established in typical cases, and should form a basis for diagnosis in atypical cases. John C. Munro (Annals of Surgery, November, 1905).

AUTO-INFECTION, DIATHESIS OF.

The auto-infectious origin of many different diseases is claimed by the author to be more or less well established, and that the latter may be due to either the direct or the indirect action of the germs in the digestive tract. He ascribes to their direct pathogenic action biliary

lithiasis and cirrhosis, angiopancreatic sclerosis, appendicitis, muco-membranous enteritis, acute and chronic icterus, cholæmia, stomatitis, angina and acute articular rheumatism, and to their indirect action hæmorrhoids, pseudo-ulcer of the stomach, splenomegaly from portal hypertension, gout, diabetes, albuminuria, prurigo, urticaria, neurasthenia, melancholia, hysteria, asthma, and migraine. A. Gilbert (*Presse Médicale*, October 21, 1905).

BLADDER IN GYNÆCOLOGY.

Frequent and painful micturition is met with in about one-third of females who apply for gynæcologic advice. In 25 per cent. this is due to specific (gonorrhœa) urethritis, often associated with vaginitis, etc. But few cases of gonorrhœic infection are met with after thirty-two years. Vesical prolapse and intrapelvic or abdominal tumors are the most common factors after thirty years. Uterine displacement, inflammation involving the broad, the uterosacral ligaments, the tube and ovaries must be reckoned with, and relieved by appropriate measures before the bladder symptoms can be cured. As changes in the urine producing symptoms do not occur in more than 5 per cent. of all cases, after medical treatment has been tried for a time and found wanting, the pelvis should be explored digitally, and the anal region inspected, not infrequently the rectum and sigmoid as well. Whenever urinalysis points to calculi or infection in the bladder, ureter, or kidney, it is the custom to pass the cystoscope and catheterize the ureter. A. E. Gallant (*Medical News*, October 14, 1905).

BRONCHIECTASIS, INFLUENZA BACILLUS IN.

The influenza bacillus is probably capable of producing extensive patholog-

ical changes in the lungs, leading at times to bronchiectasis. The organism may be a secondary invader or associated with other bacteria; the latter may be the preponderant factor. In the author's series there was no clinical difference determinable between the pure influenza infections and the mixed or non-influenza cases.

The very close clinical resemblance of these cases of bronchiectasis to some cases of chronic tuberculosis with cavity formation is important, and may, in the absence of cultural investigations, lead to wrong diagnoses. Physical signs alone, therefore, can be relied upon for a positive diagnosis of tuberculosis.

Care should be taken to prevent the possible infection of others from these chronic cases having influenza bacilli in the sputum, as the organisms may not have lost their pathogenicity by a continued growth in these old infections. T. R. Boggs (*American Journal Medical Sciences*, November, 1905).

BRONCHITIS IN CHILDREN, TREATMENT.

The treatment of bronchitis in children necessitates intimate acquaintance with the structure of the bronchi, and with every alteration in this structure at each step and every hour of the morbid process. The child should be placed in a crib—never on a bed. The crib should be flannel-lined and should be in the center of the room—never near a wall, window, or door. Sometimes it becomes necessary to place screens about the crib to avoid draught. Light flannel should envelop the child's body, arms, and legs. This, the writer says, comprises nine-tenths of the treatment to be adopted in a case of moderate severity. In severe cases the drug recommended by him is aconite, to be given in water only, in

small (less than one drop) doses, repeated often. Intestinal elimination, diaphoresis, aconite, and sweet spirits of niter are the febrifuge measures employed by the writer. Coal-tar derivatives he considers contraindicated. Cold applied to the cutaneous capillaries he says is unphysiologic, pernicious, and conducive to extension. It is wrong to give stimulating expectorants. When the secretion becomes excessive, the child should be kept in the prone position to secure gravitation of the secretions. Emetics may be given. Oxygen inhalations should be continuous—even during sleep. These measures are supplemented with mustard packs and maximum doses of spirits of camphor and carbonate of ammonia. Castor-oil in 10-minim doses is a most efficient remedy for the harassing cough in inflammation of the upper respiratory passages. In older children in whom the irritation of coughing superinduces nervous irritability, small doses of codeine may be given. The writer discounts the use of steam inhalations on the ground that they increase the susceptibility to cold, to catarrh of the larynx, and bronchi-catarrhal croup. J. E. Winters (*Medical News*, November 25, 1905).

CAFFEINE, ACTION OF, UPON THE BLOOD-PRESSURE.

The author reports his observations in 12 cases in which caffeine has been used with a view of determining the effect of caffeine upon the blood-pressure. There seems to be still some uncertainty as to the exact effect of caffeine in diseases of the heart; an uncertainty which is probably based upon differences in the results obtained in the clinic and those obtained in the experimental laboratory. The

remedy was given hypodermically in order to obtain a more prompt action. The manometer of Riva-Rocci was employed for measuring the blood-pressure.

The author's conclusions were as follows: In virtue of its vasodilator action, caffeine produces a marked depression in the arterial tension. It also stimulates the heart by reinforcing and regulating its movements, thus opposing, in a way, the effect of the fall of blood-pressure which it produces. In patients with diseased arteries in whom the dilatation of the vessels is not possible, the pressure is increased; in other words, the opposite effect from that which occurs in normal persons is obtained. In the majority of cases caffeine causes a slowing of the pulse in virtue of the same property which reinforces the vigor of the systole. The author's researches also prove the rapidity with which caffeine acts, and also the facility with which it is eliminated. G. C. Mirano (*Riforma Medica*, September 23, 1905; *New York Medical Journal* and *Philadelphia Medical Journal*, December 9, 1905).

CHOLELITHIASIS. TREATMENT OF.

In all cases of cholelithiasis with inflammatory symptoms, fever, and icterus of long duration an operation is absolutely necessary, but in milder cases an attempt to control the process may be undertaken by internal treatment, though if this fails the case becomes a surgical one. If during the operation calculi are found in the gall-bladder, and if the ducts are patent or can be made so, cystostomy in one sitting is the operation of choice, but if the walls of the organ are the seat of pathologic changes cystectomy is to be done. Cystendysis is to be resorted to only in cases in which the gall-bladder contains one or two large calculi and when the

ducts are free from stones. Calculi within the ducts, which cannot be displaced either toward the gall-bladder or the intestine, are to be removed by incision of the duct. Cystenterostomy is only indicated in cases of absolute occlusion of the choledochus which cannot be surgically remedied, but if the subject is cholemic, cystostomy is by all means preferable. C. G. Cumston (*International Journal of Surgery*, November, 1905).

COLDS, SUBCATABOLIC METABOLISM OF.

Colds, according to the writer, represent the results of disorders of metabolism due to local circulatory disturbances following the unusual exposure to cold of some part of the body. The degree of temperature is subordinate to the state of inequality produced, for a cold may be due to the extrinsic effect of either cold or heat, if sufficiently pronounced or abrupt to insure a localized action of definite heterogeneity from the balance of the organism. The author has discovered that protoplasm as such is subject to the general laws that heat causes expansion, and cold, contraction, or, in other words, cold heightens and heat lowers the specific gravity of protoplasm in general, not excepting that of the parenchyma. In analyzing the mode of origin of a common cold, primarily a condition of disequilibrium is produced. An individual during a period of normal heat balance, gets wet, cold feet; a state of contraction of the tissues of the lower extremities is attained, the blood is ejected from the peripheral vascular areas to the more roomy reservoirs of the splanchnic veins, which readily dilate to receive it, with the result that a pernicious splanchnic venous stasis is produced, concurrent with a capillary and arterial blood deficiency in the ex-

tremities and with an inevitable sub-oxidation of the dependent tissues in the extremities. H. Wakefield (*Medical Record*, December 2, 1905).

DIABETIS, EFFECT OF DIET CURES IN.

Certain diet cures which have assumed some importance during the past few years, such as the milk cure, the potato cure, and the oatmeal cure have been brought forward by the authors. Their observations with the use of milk as a form of diet in diabetes are in accord with those of von Noorden. They have rarely found it advisable to place any of their patients on an exclusive milk diet, except in those cases of diabetes in which diacetic acid is present in the urine and in which the patient is threatened with the onset of diabetic coma or in which this condition had already set in. On the other hand, they have utilized from one-half to a liter of milk daily in many of their cases of diabetes in addition to other allowable foods, often with excellent result. They have never followed Mosse's plan, that of replacing all carbohydrates by potatoes, but have rather followed the method suggested by von Noorden, that of replacing a portion of the bread by this form of food. A patient who is permitted to consume 100 grams of bread a day can take 300 grams of potatoes, so that at least a certain proportion of the bread can be replaced by this form of food. They have never seen the slightest harmful effect produced by the use of potatoes, even in severe forms of diabetes. In a not inconsiderable number of cases very beneficial results were obtained. The potato has an additional advantage, in that it lends variety in furnishing carbohydrate food as it can be prepared in various ways, and again as being a means by which fatty food, such as butter, can

be furnished the body in large quantities. The oatmeal cure was found especially useful in those forms of diabetes exhibiting diacetic acid in the urine. In the mild forms it is not only a useless treatment, but may even prove harmful. In the severe forms of diabetes remarkable results have been obtained with the oatmeal cure.

The authors believe that these cures are valuable aids in the treatment of diabetes, but urge that great care must be practiced with the use of these various forms of diet. Each case must be studied individually and must be watched carefully in order to obtain the best results. J. Friedenwald and J. Ruhräh (*American Journal Medical Sciences*, October, 1905).

DYSMENORRHOEA, DILATION AND CURETTEMENT FOR.

Dysmenorrhœa may be primary or secondary. In primary dysmenorrhœa the pelvic organs are either normal or else merely poorly developed. In secondary dysmenorrhœa marked pathologic changes are present in the pelvic organs, and these pathologic changes are the cause of the dysmenorrhœa. The most frequent pathologic conditions causing dysmenorrhœa are: (1) Pelvic inflammatory disease; (2) retrodisplacement of the uterus; (3) myomas, especially the submucous variety. Primary dysmenorrhœa often dates from debilitating illnesses, and is often apparently caused by anæmias, malnutrition, and neurasthenia.

In 40 per cent. of all cases of dysmenorrhœa in which the pelvic organs are normal, or else merely poorly developed, successful results may be expected from dilation of the cervix and curettement of the endometrium. By "successful results" is meant entire or very great

relief from dysmenorrhœa for a year or more, with or without subsequent return of the trouble. No relief whatsoever may be expected in 30 per cent. of the cases. The relief in the remaining 30 per cent. varies in degree and duration.

The presence of anæmia, malnutrition, or neurasthenia does not necessarily cause a bad prognosis after dilation and curettement, but in order to obtain a successful result from the operation these conditions must be rectified. If the patient's general condition is not improved little relief will be given by the operation. The prognosis is better in those cases in which the pains (1) begin the day of flow or the day before, (2) are sharp in character, and (3) last but a day or two. The prognosis is worse when the pains (1) begin several days before the flow appears, (2) are dull in character, and (3) last for several days or throughout the flow.

Every operation should be preceded by a careful examination under ether. If the organs are not normal the prognosis is worse. When the history points to inflammatory trouble, even though none can be recognized at the ether examination, its possible existence should be carefully considered. If in such cases an exploratory laparotomy is not thought advisable, it is best to limit operative procedures to dilation of the cervix and omit curettement.

In dysmenorrhœa recurring after a period of relief following dilation and curettement, the possibility of the new appearance of a pathologic condition in the pelvis, *e.g.*, a retrodisplacement, should be carefully considered. When the pelvic organs are poorly developed, the prognosis for relief after dilation and curettement is much worse than when the organs are normally developed. Apparently the mal-development of the

pelvic organs causes dysmenorrhœa. Chronic endometritis is rarely present in cases of dysmenorrhœa unless there is at the same time an inflammatory condition of tubes or ovaries. Chronic endometritis alone is rarely a cause of dysmenorrhœa.

Sterility is relieved by dilation and curettement in but 15 per cent. of the cases of sterile married women who are in the child-bearing period. The relief of dysmenorrhœa does not necessarily mean the relief of the sterility, and *vice versa*, sterility may apparently be relieved without relief of the dysmenorrhœa. The relationship between dysmenorrhœa and sterility seems an accidental one, and of no significance.

While dilation and curettement in the majority of cases is perfectly safe, still when the technique of the operator is imperfect, either on account of unfavorable surroundings or lack of proper skill, it may be exceedingly dangerous. G. R. Holden (American Medicine, November 4, 1905).

DYSPEPSIA.

All diseases of the stomach can be classified, according to the author, as anatomical, depending upon changes in structure (cancer, ulcer, gastritis, etc.); and physiological or functional disorders. Leaving aside the anatomical diseases he again divides the physiological in secretory, motility, sensibility, and each class into increased and diminished action. All symptoms of functional dyspepsia can be referred to disturbance of function in one or more of these directions. The secretory functions of the stomach can be investigated by means of a test meal and the stomach tube. The motor functions can be studied in the same way, also by dilatation of the stomach. Sensibility is

much more difficult to inquire into. Disturbance of secretion does not necessarily cause symptoms. The most important function of the stomach is its motility, and its disturbance quickly gives rise to symptoms. Diminished motility manifests itself by a sensation of weight and discomfort during digestion, but not by actual pain, and by the development of flatulence. Increased motility is uncommon, and is manifested by a feeling of cramp or spasm, usually towards the pyloric end of the stomach. Increased sensibility is shown by the production of pain. There may be actual neuralgia of the stomach nerves. Disturbances of secretion may be due to mental influences (worry, grief, etc.), or to an excessive meat diet. Impairment of the motility of the stomach is not due to any primary disturbance in the stomach, but to a general nervous exhaustion. Hence it is most common in victims of physical and mental overstrain; those who lead the "strenuous life." Overactivity of the motor function, however, is always due to disorders in the stomach itself, especially to hyperacidity of its contents. Hyperæsthesia of the stomach is often a good illustration of the "irritability" of weakness, and in its extreme form—gastralgia—the cry of the nerves for better blood. The author firmly believes that errors in diet have but a small share in the production of functional dyspepsia. On the other hand, the part played by the nervous system cannot be overstated.

Treatment falls into the following classes: (1) General measures: Physical and mental rest, exercise, massage, hydrotherapy, electricity, etc. (2) Dietetic means: These are not of much value in the care of dyspepsia where motility is chiefly affected. The mechanical form of the food is of more im-

portance than its chemical composition. In disturbance of secretion the reverse obtains, while in hyperæsthesia, the temperature of the food has to be considered as well as its form and composition. Alcohol is a powerful stimulant of gastric function; its use should be reserved for atonic cases. (3) Drugs: (a) Increased secretion; belladonna decreases secretion. (b) Decreased secretion. The soluble alkalies promote secretion, also stimulating drugs such as capsicum and ginger. (c) Diminished motility. This may be remedied by strychnine, quinine, and hydrochloric acid. (d) Increased motility. This is best met by neutralizing the excess of acid which causes it. (e) Increased sensibility is allayed by bismuth, bromides, chloral, cocaine, etc. (4) Surgical Treatment: In purely functional dyspepsia surgery is of little if any assistance. R. Hutchinson (*British Medical Journal*, November 25, 1905).

ERYSIPELAS, CONTAGIOUSNESS OF.

The author thinks that his researches have demonstrated that the streptococcus enters through some solution of continuity in the skin or mucosa, possibly so minute as to be imperceptible. The coccus penetrates into the lymphatics beneath and sets up erysipelas or an abscess, according to the depth of its penetration or its virulence. It never comes to the surface in the vesicles or cast off epidermis, any more than in case of a phlegmon in a tendon sheath. The erysipelas patient is no more dangerous, he states, as a source of contagion than a patient with a phlegmon of this kind, so long as he does not scratch the patches. If they are scratched the lurking places of the streptococcus are liable to be disturbed and the exuding fluid may contain virulent streptococci. An erysipe-

las patient should have the patch covered with a protecting dressing the same as any abscess or phlegmon, and when this can be done effectually the patient is no more dangerous to those around him than any patient with an infectious process. If the patch is on the face or where it can not be effectually protected, the patient had better be isolated until the symptoms of inflammation have subsided. When these are gone isolation can be suspended, as there is no danger of contagion from the scaling. Franke (*Deutsche Zeitschrift f. chirurgie*, Bd. lxxviii., Nos. 1-3; *Journal American Medical Association*, December 2, 1905).

EXOPHTHALMIC GOITRE, RESULTS OF SURGICAL TREATMENT.

From a review of the end results in nine cases of exophthalmic goiter treated surgically, the writer reports that eight of the patients are still living. An analysis from the standpoint of end results has brought out the following facts: Exophthalmus was present in seven cases. At the present time it is absent in four, and notably lessened in three. The average duration of the disease prior to operation in the first series was eleven months, in the second twenty-eight months. Hence it may be inferred that permanent deformity from this cause may be expected in long-standing cases. Tachycardia disappeared after a few weeks in every case. The same statement may be made in reference to abdominal psychic manifestations, undue excitability and associated nervous phenomena. Recurrence of thyroid hypertrophy was noted in one case necessitating a third operation months after the second. It may be that a more radical removal of the right lobe originally would have obviated the final procedure. Re-establishment of normal structural

conditions as manifest in muscle repair, increase in weight and strength, and resumption of normal blood conditions, have been uniformly slow. While in each case progressive improvement in these respects has been noted, two patients have been disabled to such an extent that they will never regain their wonted standard of health. T. W. Huntington (Boston Medical and Surgical Journal, October 26, 1905).

**FRACTURES AT LOWER END OF RADIUS,
OPERATIVE TREATMENT OF.**

Fractures at the lower end of the radius are very common lesions. As a result of neglect on the part of the patient, or oversight or otherwise on the part of the physician, the final result is frequently unsatisfactory, either from the standpoint of function, or appearance, or both. Appropriate treatment applied early should give as good a result as could be obtained in any given case, therefore, subsequent operation is not indicated.

In cases where the final result is not satisfactory, surgical interference of some sort is usually indicated. During the first three weeks whatever union has taken place can usually be broken up by manipulation under an anæsthetic and suitable apparatus should then be applied as for a recent fracture. After the third or fourth week the best results are obtained by means of an osteotomy in the line of fracture, followed by treatment appropriate for a recent fracture. In fractures which have existed for from two to six months, osteotomy should always improve the position and frequently improves the function, although special consideration should be given each case. After the expiration of six months it is more difficult to correct the deformity. The backward and upward

displacement of the lower fragment can always be overcome, but the correction of the lateral displacement is more difficult and usually requires an osteotomy of the ulna. The function is rarely improved at this time. Hence, interference should be limited to selected cases. H. A. Lothrop (Boston Medical and Surgical Journal, December 7, 1905).

FRACTURES OF THE LOWER LEG, CONSERVATISM IN THE TREATMENT OF UNUNITED.

Union is possible in ununited fractures of the shafts of the bones of the lower leg after very long periods of time. In the case reported by the author, union took place about two years after resection of the ends of the fragments, and about three years after the original injury. Even in cases where the bones are considerably shortened (it was estimated that the shortening in this case was about two inches), the muscles will contract sufficiently to enable the patient to balance himself upon the injured leg. G. H. Monks (Boston Medical and Surgical Journal, December 7, 1905).

GALLSTONES, SITE OF ORIGIN OF.

All gallstones do not originate in the gall bladder. The origin of cholesterol stones is probably in the gall bladder, with subsequent growths either in gall bladder or ducts where they may lodge. Bilirubin calcium is the constituent of the smaller intrahepatic duct stones. Calculi in immense numbers may have existed for months in the ducts without producing a symptom. L. L. McArthur (Journal American Medical Association, December 9, 1905).

GASTRIC AND DUODENAL ULCER.

In the consideration of those cases of peptic ulcer that are characterized by

pain, vomiting and hæmorrhage, without evidence of adhesion or contraction, the author calls attention to the following points: The onset of symptoms may be so sudden that it is impossible to guarantee any human being against death from hæmorrhage within a few days. Patients recover without treatment and die in spite of any treatment. A return of symptoms does not of necessity mean the failure of previous treatment. All treatment is directed either to excising the ulcer or to keeping it at rest, and at the same time feeding the patient. Hæmorrhage may follow any form of treatment, operative or non-operative. A patient allowed to get up or to suck ice is not undergoing the rest treatment. Nutrition is of importance as in treating any ulcer. The rectum can be trained. Whatever treatment be adopted, its continuance should include a broad margin of safety. This precaution has often been neglected. E. M. Buckingham (Boston Medical and Surgical Journal, December 7, 1905).

GASTROENTEROSTOMY.

From a review of five hundred cases of gastroenterostomy, including pyloroplasty, gastroduodenostomy, and gastrojejunostomy, the writer states that the gastric opening should be placed on the posterior wall, obliquely from above downward, and left to right. The lowest point of the gastrojejunostomy should be at the lowest point of the stomach, on a plane perpendicular with the cardiac orifice. To insure this effect, the gastric incision should extend one-fourth to one-half of an inch onto the anterior wall. The incision in the intestine should be longitudinal, opposite the mesentery, and begin from one to three inches from the origin of the jejunum, measuring on the anterior sur-

face. The exact distance depends on the ease of attachment, as short as can be conveniently done without tension.

The operation is described as follows:

(a) The abdominal incision is made four inches in length, three-fourths inch to the right of the middle line, the fibres of the rectus muscle being separated. The lower end of the external wound lies opposite the umbilicus. This opening also enables inspection of the duodenum and gall-bladder and is reliable against hernia when closed. (b) The transverse colon is pulled out and the mesocolon made taut by traction upward and to the right, in this manner bringing the jejunum into view at its origin. (c) About three to four inches of the jejunum opposite the mesentery are drawn into a slightly curved clamp. The handles of the clamps should be to the right, to enable a short grasp on the intestine. Three-fourths of the circumference of the bowel is pulled through; the posterior border is not included, to prevent entanglement of the suture with the redundant posterior mucous membrane. The holding clamps are applied sufficiently tight to check hæmorrhage and prevent extravasation of intestinal contents. (d) The ligament of Treitz is a short muscular mesentery covered by a variable peritoneal fold (too variable for a reliable landmark) extending upward from the origin of the jejunum on to the mesocolon. This peritoneal fold lies at the base of the arterial loop on the middle colic artery which supplies the transverse colon. The mesocolon is opened within the vascular loop and the posterior inferior border of the stomach pushed through. A small separation of the greater omental attachment to the stomach enables the anterior gastric wall to be drawn out posteriorly. The pos-

terior gastric wall is drawn into a clamp, with the handles to the right, in such a manner as to just expose the anterior wall at the base.

(e) The two clamps are laid side by side and the field carefully protected by moist gauze pads. With fine, celluloidal linen thread, on a straight needle, the intestine is sutured to the stomach from left to right by a Cushing suture at least two and one-half inches.

(f) The stomach and intestine are incised one-sixth inch in front of the suture line and the redundant mucous membrane excised flush with the retracted peritoneal and muscular coats. With a No. 1 chromic catgut on a straight needle, the posterior cut margins of the entire thickness of the gastric and jejunal wall are united by a button-hole suture from right to left; at the extreme left the suture changes to one which passes through all the coats, of each side alternately, from the peritoneal to the mucus, then directly back on the same side from the mucus to the peritoneum. This acts as a hæmostatic suture, and also turns the peritoneal coats into apposition. It passes around the anterior surface and is tied to the original end, which has been left long for the purpose. If silk or linen is used for this suture, it may hang *in situ*, suppurating for months.

(g) The clamps are now removed and the linen thread continued around until it is tied to the original end, firmly catching the blood-vessels in sight along the suture line. The parts are carefully cleansed and inspected. If necessary, a suture or two is applied, to accurately coapt or to check the oozing. (h) The margins of the incised mesocolon are now united to the suture line by three or four interrupted sutures, and the parts returned into the abdomen.

After-Treatment.—On being placed in bed, a glass female douche point is passed just above the internal sphincter and, attached to a gravity bag filled with one-half strength normal salt solution. The elevation should not be greater than six inches. The small stream passing into the rectum is readily absorbed without irritation. The patient is then placed in the semi-sitting posture. Beginning at sixteen to twenty hours, an ounce of hot water is given every hour; this is rapidly increased, and in thirty-six hours the usual experimentation with liquid feeding is instituted. Rectal feeding is unnecessary. W. J. Mayo (Annals of Surgery, November, 1905).

GELATINE AS A REMEDY FOR DIARRHOEA AND AS A STOMACHIC.

The writer found that diarrhoea was favorably influenced when the patients took spoonfuls of a gelatine jelly systematically during the day. As his patients did not take kindly to this jelly medicine, he used gelatine that had been rendered more fluid by heating for six hours. A solution of gelatine thus prepared does not harden unless placed on ice. The author doubts whether this fluid gelatine would have the same action as ordinary gelatine, but found that it surpassed the latter in its effect as an anti-diarrhœic and stomachic. He summarizes the results in 20 children under 2 years, in 6 under 14, and in 32 adults, all out-patients. The results were actually brilliant in certain cases and benefit was apparent in all. The gelatine is prescribed in a 10 per cent. solution, with 1 per cent. citric acid, and about 9 per cent. syrup of orange peel, ordering half a tablespoonful every two hours for an infant and one or two tablespoonfuls for an adult. The result of treatment are sometimes not apparent

until 100 or 200 grams have been taken. E. Cohn (*Therapie der Gegenwart*, Bd. xlvii, Nu. 9; *Journal of the American Medical Association*, November 11, 1905).

GONORRHOEA, QUICK CURATIVE TREATMENT OF.

The writer reports that out of a total of a little over 400 patients subjected to a quick treatment, 384, or about 95 per cent., were cured within six days, and about 80 per cent. in twenty-four hours. If gonococci are found and the history of the case shows it to be one of acute infection, he injects into the urethra after it has been cleansed by urination, with an ordinary conical-shaped, soft-rubber-pointed clap syringe, $1\frac{1}{2}$ drachms of a 4 per cent. solution of silver nitrate, the patient being in the recumbent position. The solution is held inside the canal for from two to three minutes. When the patient re-presents himself after twenty-four hours, the discharge is examined for gonococci, and if they still are found a 2 per cent. solution is injected in the same manner. If necessary, after twenty-four more hours, a 1 per cent. solution is given. If the gonococci have not entirely disappeared by that time the treatment is abandoned and the symptomatic plan pursued. F. A. Lyons (*Medical Record*, November 4, 1905).

GONORRHOEAL SEPTICÆMIA AND ENDOCARDITIS.

The mild, continued fever sometimes seen in connection with gonorrhœa without apparent complications is, in some instances at least, evidence of a true gonorrhœal septicæmia. A true gonorrhœal septicæmia in cases in which there is no evidence of local complications may run a course not dissimilar to that of typhoid

fever. In doubtful cases of continued fever associated with gonorrhœa the possibility of a gonorrhœal septicæmia should always be borne in mind. W. S. Thayer (*American Journal of Medical Sciences*, November, 1905).

HEART AFFECTION, ACTION OF MASSAGE ON THE PRECORDIAL REGION IN.

The author declares that massage affects arterial pressure. It may be soothing in its effects, lowering the pressure, which is accomplished by manual vibrations and gentle movements, or it may be exciting, raising the pressure, as brought about by petrissage. Whatever the nature of the massage, the indication for its variety is based on the condition of the arterial pressure. By massage the number of the pulse beats may be regulated. The rhythm, also, may be influenced. This effect may be permanent after several treatments. The writer has obtained sphygmographical tracings in his work, which definitely demonstrate his results.

Besides its effect upon the arterial pressure and upon the pulse, massage also influences the volume of the heart. However, in cases of pericarditis with effusion and in precardic symphysis the absolute dullness is not changed by means of massage, and this fact offers an important element in diagnosis. Aside from its action on the heart the good effects of massage have been noted in relation to intercostal neuralgia, which occurs so frequently in cardiopathies, and on the general condition—diminution of dyspnoea, increase of diuresis, sensation of well-being—especially if the action of cardiac massage is combined with that of abdominal massage. Cautru (*Le Progrès Médical*, September 2, 1905; *Medical Record*, November 11, 1905).

HEPATITIS, BLOOD COUNTS IN ACUTE.

Absolute leucocytosis is nearly always found in amœbic abscess of the liver, but in chronic cases with marked anæmia only a relative leucocytosis may be found. The degree of leucocytosis is very variable, being highest in the most acute cases, while a low degree is commonly met with in cases with an insidious onset, in which repeated examinations may be necessary. In acute hepatitis without suppuration leucocytosis, both absolute and relative, is nearly always absent. A slight degree may sometimes be met with in the more acute cases, but the symptoms usually yield rapidly to large doses of ipecacuanha if no suppuration is present. Leonard Rogers (*British Medical Journal*, November 11, 1905).

HERPES IN PNEUMONIA AND CEREBROSPINAL MENINGITIS.

The cases reported by the writer furnish additional proof to support the position that the ordinary herpes zoster, as well as the herpes of pneumonia and cerebrospinal meningitis, is a pathological condition dependent upon definite lesions in certain sensory ganglia, which may be caused by a variety of agents acting in different ways. The herpes is dependent upon the ganglionic lesions, and apparently does not vary with causes of the latter, whether they are due to embolism, thrombosis, hæmorrhage, invasion by tumors, micro-organisms and other toxins or to other poisons. The ganglionic changes in the cases of herpes complicating pneumonia and cerebrospinal meningitis studied by the writer are identical with those described by Head and Campbell in their acute cases of so-called spontaneous herpes zoster. In the herpes of meningitis the ganglion changes are probably com-

monly due, as pointed out by Councilman, Mallory, and Wright, to an extension of the inflammatory process along the nerve roots to the ganglia. In pneumonia the matrices morbi are apparently brought to the ganglia by the circulation. W. T. Howard, Jr., (*American Journal Medical Sciences*, December, 1905).

HYPOLUCOCYTOSIS, THE RELATION OF, TO THE BONE-MARROW.

The writer records a case of marked leucocytosis in a girl of 18 years, associated with tuberculosis of the lymph-nodes and of the spleen. In the bone marrow and nodes a high degree of lymphoid hyperplasia was present, in the former the lymphoid tissue occupying both epiphysis and diaphysis. The blood picture showed a relative as well as an absolute decrease in the number of polynuclear neutrophils that were the only leucocytes in the blood containing granules. Twenty-four hours before death these also entirely disappeared from the circulation, the small lymphocytes constituting 99 per cent. of the leucocytes. The erythrocytes and hæmoglobin were both reduced to one-quarter of the normal amount. Clinically, the symptoms were anæmia, diarrhœa, and increasing weakness, a splenic and a hepatic tumor, and slight enlargement of the cervical lymph-nodes. Death occurred from inanition. Preparations made from the marrow of the ribs and femur showed normoblasts and normocytes, but the preponderating form was a cell with basophilic homogeneous protoplasm in which no nucleus could be demonstrated. Transition forms to typical lymphocytes in one direction, and to a large mononuclear cell with lightly staining, basophilic, homogeneous protoplasm in the other,

were also present. A few cells of this type contained eosinophile, less often neutrophile, granules. No myelocytes were found.

The writer believes two factors to have been active in producing this symptom-complex. In tuberculosis a hypoleucocytosis is common; the bone marrow contains fewer granular cells, the myelocytes being especially diminished in number. Whether this is the result of the inhibitive action of the bacteria or of their toxins upon the marrow, the seat of elaboration of the granules of the leucocytes has not yet been definitely determined. Secondly, the centers in which these granules are formed may have been replaced by the lymphoid hyperplasia, as in pseudoleukæmia and chronic lymphatic leukæmia, in both of which there is, as in the author's case, a relative lymphocytosis at the expense of the granular cells. Gütig (*Berliner klinische Wochenschrift*, August 21, 1905; *Medical Record*, September 16, 1905).

INTESTINAL OBSTRUCTION.

The author believes that if all cases of intestinal obstruction could be given the benefit of operation within the first twenty-four hours, the mortality in this condition would be completely revolutionized. The fact that some cases do exist for days and are relieved by operation leads in cases in which there is an element of doubt, sometimes to the delay of surgical intervention until the chances of recovery are materially lessened. Occasionally a positive differential diagnosis is exceedingly difficult, but the conditions from which a differentiation cannot be positively made are almost invariably equally as imperative in their demands for surgical intervention as would be the existence of an ileus.

Among the most common of these conditions may be mentioned appendicitis, gall-stones, infected gall-bladder, floating kidney with a twisted ureter, perforated gastric ulcer, ruptured extra-uterine pregnancy, and salpingitis, all of which, when giving rise to symptoms that could lead to confusion in the diagnosis of ileus, would positively indicate operation. The bare possibility of a mistake in diagnosis in conditions in which no intraperitoneal operation is indicated (such as a calculus passing through the ureter), should not act as too serious a restraint, for such a mistake would of necessity be most rare, and an abdominal section in such a condition could do no possible harm.

Sudden severe abdominal pain should always suggest the possibility of intestinal obstruction, unless clearly due to some other cause. When associated with nausea and vomiting, and when it does not respond to moderate doses of morphia, hypodermically, the condition is still more suggestive. The frequent administration of large doses of morphia in cases where a possibility of ileus exists cannot be too severely condemned, as it simply masks symptoms and only too frequently leads to unnecessary and dangerous delay.

Sudden severe abdominal pain, associated with nausea and vomiting plus obstipation which does not respond within a few hours to potent cathartics and stimulating enemata, constitute a condition in which the indications for operation are positive. The inability to isolate a distended loop of intestine, the presence of shock and stercoraceous vomit go to confirm the diagnosis, but should not by their absence cause undue delay in operating. As a general proposition, the more sudden and violent the storm of symptoms initiating the con-

ditions, the more imperative the indications for early operation. After the diagnosis of ileus has been made, the adoption of treatment other than surgical with the hope that it may effect a cure, is utterly unjustifiable, and procrastination, based on the hope of a spontaneous recovery, is in the author's opinion, pretty nearly criminal. Lewis C. Morris (*American Journal of Obstetrics*, November, 1905).

INTESTINAL OBSTRUCTION.

The prevalent method of enterectomy with immediate suture in cases of intestinal obstruction is attended with a high mortality due to the changed condition of the distended bowel. Enterostomy with later enterectomy should be reserved for the cases unable to bear primary enterectomy. Enterectomy with a temporary artificial anus should be the operation of choice in all critical cases of intestinal obstruction, where there is an opportunity for resection, whether it involves the large or the small intestine. The suggested improvements in the technique are as follows: The upper distended bowel should not be opened until the peritoneal cavity is completely closed. (This is already the practice of several surgeons). The open ends of the bowel should be stitched together on their mesenteric side before they are fastened into the parietal wound. This will greatly facilitate the later closing of the artificial anus. When the artificial anus is in the small intestine, the partially digested discharge from the upper opening should be collected and injected into the efferent opening. The closing of the artificial anus is a safe operation, and hardly disturbs the convalescence. J. W. Elliot (*Annals of Surgery*, November, 1905).

JAUNDICE, TREATMENT OF.

The treatment of this condition is varied by the authors in accordance with its causation; in all cases, however, a milk diet is necessary—a tumblerful every four hours, with the addition of a little alkaline water, lime-water or Vichy. The alkaline mineral waters and infusions, such as aniseed tea, may be allowed. The bowels should be opened by sodium sulphate or other mild alkaline; calomel is neither effectual nor well borne; intestinal antiseptics, salol, naphthol, etc., should not be given. Intestinal irrigations when there is intestinal colic, are indicated; a quart of hot or cold water may be given in this manner morning and evening. The saline laxative should be continued for a week, then omitted for a week, during which 15 grains of sodium benzoate or salicylate are administered at noon and evening. The morning laxative may be replaced by a pill of euonymin, gr. $\frac{3}{4}$; podophyllin and belladonna extract, each gr. $\frac{1}{4}$. The milk diet should be continued, and to it may be added a little macaroni or vegetable purée soup. In tertiary syphilitic jaundice specific treatment is indicated. Pruritus may be relieved by alkaline baths, warm douches, a warm lotion of coal tar, $\frac{1}{2}$ ounce to the quart of water, weak solutions of carbolic acid, mercury bichloride, 1:2000, ichthyol, mentholated talcum powder, etc. If it is obstinate the skin may be dressed with ichthyol, 10 parts; alcohol and ether, each 50 parts, followed by a soothing powder, or by glycerin, 20 parts, to chloroform, 60 parts. In icterus due to gallstones, a course of spa treatment may prove effectual, or this failing, surgical intervention may be considered. If symptoms of cholæmia appear the milk diet is necessary and an enema should be given

each morning, to be followed after an hour by an irrigation of 8 ounces of saline solution; about 3 ounces of macerated pork liver should be given daily mixed with a little water. The nervous symptoms may be relieved by packing in a sheet wrung out in water at 100.5° twice a day or two or three baths daily at from 82° to 86° and lasting ten or fifteen minutes. H. Huchard and C. Fiessinger (*Journal des praticiens*, No. 23, p. 361, 1905; *American Journal Medical Sciences*, December, 1905).

LARYNGEAL DIPHTHERIA, COMPLICATIONS AND SEQUELS OF.

The writer discusses the complications immediately following intubation, or attempts to intubate, when, from reflex apnoea, cardiac or respiratory disturbances occur, of such gravity as to compel one to modify the procedure, or of such serious type as to cause the death of the patient. Atony of the crico-arytenoidei postici muscles may be a cause of acute stenosis after extubation. The author also emphasizes the fact that reflex apnoea causes dangerous disturbances. Atony of the abductors causes a tube to be returned in many instances. Pressure paralysis and exhaustion of abductors frequently cause auto-extubation. Retained tubes are also caused by pathologic changes in the soft structure of the larynx and trachea. Such changes are often hypertrophic in character, following traumatism from the tube or loss of tissue from disease. There may be new cartilage formation in the perichondrium narrowing the lumen of the larynx, thus making a distinct pathologic change.

For reflex apnoea but little can be done. The courses of treatment open for the other conditions are: Intuba-

tion should be persisted with; large tubes inserted, allowing them to remain for long intervals of time; when auto-extubation becomes dangerous and large tubes are not retained, tracheotomy should be done; intubation should be resorted to frequently while the tracheotomy tube is being worn, in order to prevent stricture stenosis; with chronic stenosis due to contracting scar tissue, wide dilation with persistent intubation should be practiced; Roentgen-ray treatment may be considered as a possible adjunct in softening scars causing chronic stenosis; and, if possible, tracheotomy should be avoided as a means of curing a patient of a tube habit. B. F. Royer (*American Medicine*, October 28, 1905).

LARYNX IN TYPHOID FEVER.

From laryngoscopic observations of 300 typhoid fever cases, the writer concludes that serious and fatal lesions of the larynx are much more frequent than is realized. Death may occur from laryngeal stenosis without even the existence of a laryngeal lesion being suspected in the absence of laryngoscopy. If pain and hoarseness be depended upon a diagnosis will seldom be made. Pain is often masked by toxæmia. Cyanosis and dyspnoea are rare; apnoea is common.

Unlike the complications of the exanthemata, ulcerative laryngitis complicating typhoid fever bears, as to the likelihood of its occurrence, its course, and its termination, a close relation to the severity of the primary disease. The severity of the laryngeal lesion is in direct proportion to the toxæmia, pyrexia not being in itself a factor, but only an index of the toxæmia.

Thrombosis of laryngeal vessels in the mucosa or deeper is probably the most

frequent local initial lesion. Mixed pyogenic infections are the rule. Laryngeal lesions due to the bacillus typhi abdominalis are exceedingly rare.

Prognosis as to life is good if considered apart from the general malady. Not only the life but the laryngeal vocal and respiratory functions will be saved if a tracheotomy be done early. Death from laryngeal lesion means a death for want of an early tracheotomy.

Prophylaxis consists in good ventilation, without draughts, sterile bedding, oral antiseptics, sterile food, and water.

Treatment.—Potassium iodide, hydrargyrum biniodide, benzoin inhalations, and oral antiseptics are the best remedies. Early tracheotomy under local (Schleich solution) anæsthesia will cure almost every case. Chevalier Jackson (*American Journal of Medical Sciences*, November, 1905).

MALARIA, QUININE IN THE PROPHYLAXIS OF.

The writer's method of using quinine for the prophylaxis of malaria is based on the fact that the life cycle of the parasites is nearly always forty-eight hours, and that some eight or ten days must elapse after infection before they become sufficiently numerous in the blood to cause an attack of fever. Hence it follows that if a full dose of quinine (10 or 15 grains) be taken on two successive days, with an interval of eight or nine days before the next two doses are taken, the parasites will always be destroyed before they cause fever. St. G. Gray (*British Medical Journal*, November 11, 1905).

MILK, THE INFLUENCE OF PASTEURIZATION ON.

Occasionally it is found that Pasteurized milk does not agree with an infant.

In order to discover, if possible, a reason for this observation, Bergey (*Proceedings of the Pathological Society of Philadelphia*, viii, 4) has made a series of observations on samples of milk procured in open market and Pasteurized in sterilized glass stoppered bottles in the laboratory. Raw milk obtained from healthy cows in a clean dairy contains large numbers of lactic acid bacteria and several varieties of spore bearing bacilli which, for convenience, may be called the subtilis group. The development of the former organisms produces the souring of milk and the formation of a curd. That of the latter, which are present in relatively small numbers, is probably inhibited by the former. In market milk kept at ice-chest temperature, curdling seldom occurs before the fourth or fifth day, and then it will be found that the number of bacteria in a cubic centimeter has increased from a few thousands to millions, while the acidity has increased decidedly. At room temperature the same changes occur earlier. In market milk that is not very clean, the subtilis group of bacteria will frequently be present in sufficient numbers to materially modify the rate and character of these changes.

Pasteurization of milk serves to remove the lactic acid bacteria, while it leaves the number of organisms of the subtilis group practically unchanged, because they are not destroyed by the degree of heat employed in Pasteurization. Consequently the changes in Pasteurized milk differ from those in raw milk. The subtilis group of organisms produce a lower degree of acidity in the milk than the lactic acid organisms, but they also produce more rapid curdling. Consequently the degree of acidity of a Pasteurized milk is no indication of its richness in bacteria, and therefore Pas-

teurization removes the most important indicator of the approach of the possible danger limit in a particular sample of milk.

The fact that Pasteurization leaves an unopposed field to the activities of the subtilis group of bacteria, and hence that such a milk may become unfit for use even earlier than a raw milk, because of the very rapid multiplication of this group of bacteria, should receive special emphasis. Pasteurized milk because of the nature of the bacteria remaining in it, should be treated with even greater care in the house than raw milk; it should be kept at a low temperature during and after distribution and should be used as soon as possible. While we have no knowledge of any direct injurious influence of the bacteria of the subtilis group on the health of human beings, it is probable that the metabolic products of these bacteria, when present in milk in considerable amounts, will exert injurious influences, especially in young infants. Editorial (New York Medical Journal and Philadelphia Medical Journal, December 9, 1905).

MYOMA OPERATIONS, INDICATIONS FOR.

The writer's experience includes 1000 cases of myoma in seven years. Hæmorrhage occurred in about two-thirds of all his cases; it generally proceeded from submucous myomata. Pure menorrhagia was more frequent than pure metrorrhagia; the latter suggests the possibility of malignant disease or secondary degeneration of the myoma or a submucous growth. Hæmorrhage in the menopause is generally due to complication with malignant disease or secondary degeneration, or submucous development of the myoma. Conservative treatment is indicated in such cases only when these three conditions can be posi-

tively excluded. In case of pure menorrhagia, the guide to operation should be the severity of the anæmia. Anæmia with even 30 per cent. hæmoglobin does not contraindicate an operation. Ergot was successful only in one case of pure interstitial myomata, not larger than a child's head. Curettement of the uterus is scarcely liable to be successful except in case of subserous and small interstitial myomata. As the outcome is dubious, curettement should never be attempted in case of severe anæmia. Submucous myomata with hæmorrhage should be extirpated. Subserous myomata cause pain more often than other kinds except those hindered from developing freely into the abdominal cavity. Pure dysmenorrhœa can be induced by a myoma alone, especially in case of submucous development. The author warns that psychoses and general neuroses cannot be ascribed to an accompanying myoma, and are not improved by its removal. Excessively large myomata ought to be removed if they interfere with the general health, even if they cause no symptom, as also subserous tumors with a small pedicle; but otherwise not if they cause no symptoms. G. Winter (Zeitschrift f. Geb. und Gynakologie, Bd. lv, Olshausen Zeitschrift; Journal American Medical Association, October 7, 1905).

NON-INSANE PSYCHONEUROSES.

The psychoneuroses which constitute "psychosomatasthenia" are the forerunners of insanity, and the only difference between them is one of degree. In fundamental nature they are the same, viz., a pathologic lack of inhibitory control of the higher mental directive forces with consequent nutritional cellular instinctive and physical defects, which seriously mar the power of the will,

weaken the judgment and intellect, as well as excite or depress the emotional attributes in all degrees of intensity. Their causes are similar, being both congenital and acquired, while heredity, stress, and toxicity are the chief factors of each. Independent of the purely physical clinical phenomena the psychopathic manifestations dominate the syndrome, direct the prognosis, and most acutely solicitate treatment. In their incipency they are extremely amenable to curability, but when neglected the morbid ideation becomes fixed and persistent, thus defying all therapeutic efforts to give relief. John Punton (Journal of the American Medical Association, December 2, 1905).

PARALYSIS AGITANS, RELATION OF PARATHYROIDES TO.

The writer believes that atrophy or insufficiency of the parathyroid glands is, perhaps, the cause of paralysis agitans. He has administered a physiologically tested gland in 11 cases of shaking palsy in all grades of advancement. All the patients remarked on a curious increase in courage, comfort and mental energy while taking the remedy. The author states emphatically that the product used should be tested physiologically beforehand and should be kept on ice till used. The initial dose of the powdered gland is one-twentieth of a grain, from two to four times daily, preferably given in a capsule; larger doses appear to produce weakness, constipation, nervousness and even an exaggeration of the symptoms of the disease. The first good effects in the patients treated were noted, as a rule, only after from 50 to 75 capsules had been taken. Nine of the patients so treated were helped; one considered himself entirely relieved while taking the remedy. In all the earlier

cases the patients were greatly helped. The writer believes that when a more perfect form of medication is devised the results may prove more encouraging. W. N. Berkley (Medical News, December 2, 1905).

PERITONITIS, GENERAL: TREATMENT.

No one plan of treatment is applicable for all cases. The majority of cases are best treated by operation, but there are also many cases where operation diminishes the chances for recovery. Undoubted cases of general peritonitis recover without operation. Rapidity, gentleness, and removal of the cause are the most important features of the successful operation. Irrigation with saline solution is generally recommended. All chemicals and mechanical irritants are to be avoided. Drainage should be provided, but the drains should be smooth, non-adhesive, and of small diameter. The cigarette drain is preferred. Enterostomy is not advocated by the writer, and gauze packing is injurious. Fowler's position after operation is most advantageous. J. McCosh (Medical News, November 4, 1905).

PHLEBITIS FOLLOWING ABDOMINAL AND PELVIC OPERATIONS.

This complication occurs in about 2 per cent. of all abdominal operations. It follows operations on anæmic patients most frequently, as in abdominal hysterectomies for bleeding fibroids. Vaginal hysterectomies for the same conditions are rarely followed by this complication. It is more liable to follow so-called aseptic operations where no drainage is used. It is due to a mild type of infection and often to absorption of the necrotic pedicle at site of operation. The disease attacks the left femoral or saphenous veins in over 90 per cent. of

the cases. Anatomic peculiarity of veins on left side have not been found that satisfactorily explains why the disease has a predilection for left side. That a *locus minoris resistentiae* exists in left saphenous and femoral veins is proved by the frequency of the involvement of these veins. The disease is, primarily, an inflammation of the walls of the veins, and the thrombus, when one forms, is secondary, as a rule. Many cases of postoperative pneumonias, pleuritis and cerebral emboli have their origin in this source. Treatment consists in elevation of the affected leg, tonics, etc. A. H. Cordier (Journal of the American Medical Association, December 9, 1905).

POLIOMYELITIS, ACUTE ANTERIOR.

Anterior poliomyelitis is the result of a primary inflammatory disease of the blood vessels of the cord which may be thrombotic or embolic. The destruction of the ganglion cells is secondary and depends in part on the deficient blood supply of the diseased area and in part on pressure and toxins. The pathologic changes occurring in poliomyelitis of children and adults are apparently identical and dependent on similar causes. There is sufficient evidence at hand to consider the disease as a rule of an infectious nature, not depending, however, on a specific micro-organism, but resulting from bacterial infections of various kinds, and at times from other poisons. The inflammatory changes are present in the peripheral vessels as well as in the branches of the anterior spinal artery, though these changes are seldom visible until the vessels enter the gray matter. The inadequate collateral circulation within the anterior horns is favorable for sluggish circulation and embolism. T. A. Hoch (Journal of Nerv-

ous and Mental Diseases, October, 1905).

PROSTATIC ENLARGEMENT, CHRONIC: TREATMENT.

The author thinks that the use of sounds is generally to be condemned. The sphere of usefulness of the catheter is growing smaller and smaller as the advantages of an early operation make themselves manifest. The Bottini operation may be applicable in selected cases, but should seldom, if ever, be adopted. Orchidectomy, vasectomy, ligation of the internal iliacs, injection of carbolic acid, application of electricity and allied methods are to be condemned. Prostatectomy is the procedure of choice, best performed when the symptoms first make themselves manifest and the patient's condition is presumably at its best. The preferable route is through the perineum, the preferable method that of Young or one of its modifications, but much depends upon the skill of the operator as regards the method employed. In patients with foul bladders and diseased kidneys who, we have reason to expect, would not stand an extensive operation, thorough drainage should be first instituted either by a suprapubic or perineal incision under local anæsthesia, to be followed later by enucleation, if deemed advisable. The use of local anæsthesia, especially spinal cocainization, is of great value, and should be more extensively employed. J. P. Lewis (Boston Medical and Surgical Journal, November 9, 1905).

PYOSALPINX.

Chill, fever and sweats run riot, and in the acute stages the general systemic disturbances are pronounced. Nagging pain and general malnutrition are char-

acteristic features of the chronic types. A careful study of symptoms makes diagnosis easy. The importance of gonorrhoea as an etiologic factor is due to the great frequency of that disease and to the rarity of cures in the male. The protective conservation of plastic peritonitis and the systemic and generally depressing effects of the disease are marked features. While complete enucleation and vaginal drainage are not by any manner of means advocated as routine measures, the final results of those procedures are excellent, there is seldom a recurrence of the trouble and if the work is carefully and skillfully done the mortality is low. The author would call particular attention to the value of plastic surgery in the treatment of the end results of pelvic peritonitis. J. E. Cannaday (Medical News, December 2, 1905).

RUPTURE OF THE INTESTINE.

The writer reviews nineteen operations performed on patients who suffered from rupture of the intestine, resulting from blows upon the abdomen. Not infrequently such injury will end fatally unless immediate operation is done. The abdominal viscera, although they have no bony wall to protect them in front, are protected from injury by their position, and by the immediate involuntary contraction of the abdominal muscles which takes place the moment a coming blow is seen or expected. In injuries sustained through contests of physical strength, blows upon the abdomen are comparatively rare on account of the protected position in which the abdomen is held. The author comes, therefore, to the conclusion that where rupture of the intestine takes place, the intestine is generally caught between the body which causes the blow upon the

abdomen and one of the bony structures which forms its posterior walls. F. B. Lund (Boston Medical and Surgical Journal, November 20, 1905).

SALINE INJECTIONS, ACTION OF.

The prophylactic and therapeutic action of saline injections has been tested upon guinea-pigs which were treated with intraperitoneal inoculations of typhoid and cholera organisms. The saline solution employed consisted of 0.5 per cent. NaCl and 1 per cent. Na_2SO_4 dissolved in distilled water. The solutions were injected sometimes intraperitoneally and sometimes subcutaneously. The author found that they contributed to the development within the organism, particularly in the peritoneum, of a leucocytosis and a phagocytosis, which retarded the development of the virus and in some cases destroyed it. These saline injections contributed, therefore, to the prolongation of life, and in some cases enabled the animals to survive the infection. Prophylactic injection, administered twenty-four hours before the virus was inoculated, enabled guinea-pigs to resist a dose from two to three times as large as that which proved fatal to the controls. Lubomondrov (Annales de l'Institut Pasteur, September 25, 1905; British Medical Journal, December 2, 1905).

SALTS OF POTASSIUM, OR OF SODIUM?

The interesting question as to the relative merits of sodium and potassium salts in therapeutics is discussed by the writer. Formerly, it was believed that the action of potassium and of sodium was identical, the only difference, it was supposed, consisting in their degree of toxicity. Claude Bernard alleged that potassium was three times more poisonous than sodium. Various

researches, published since then, seem to show that potassium salts produced paralysis of the heart, while sodium salts, even in large doses, had no effect upon the cardiac action. From this arose the idea that potassium endangers the heart, and that sodium salts should be used in preference. Curci, in a series of studies beginning in 1883, showed how erroneous was this principle of therapeutics, and that potassium in moderate doses was actually a heart stimulant, while sodium was by no means indifferent and inactive, but also had a noteworthy stimulating effect on the heart. In doses of 2 grams per kilo, in animals, sodium actually produced convulsions with cardiac excitement, and an increase of blood-pressure, without, however, arresting the heart, unless 5 or 6 grams per kilogram were used. Curci's later researches showed that potassium in small doses excites the cardiac muscular fibers, and the muscular fibers of the arteries, while sodium stimulates the nerve cells and fibers of the organ. Potassium not only does not weaken the heart, as has been maintained, but actually reinforces it, and should be used in preference as a muscular and cardiac stimulant; all the more, because the potassium salts are in other ways more efficacious. Every physician knows that potassium iodide, for example, is more efficient than sodium; because sodium salts remain in the blood plasma and the tissue spaces, while the potassium salts enter the tissue and penetrate into the protoplasm. Being compounds of a basic character, potassium salts combine with the proteids and protoplasmic compounds having an acid function. As the proteids become oxidized when they combine with alkalies, it is evident that potassium, when introduced into the cells in the proper amount, neutralizes the

acid compounds, and renders them fit to be decomposed and burnt up by the oxygen. The sodium compounds, on the other hand, have the same effect, but only on acid substances, circulating in the plasma. The physician should, therefore, prescribe the iodide or the bromide of potassium in preference to the sodium salts. S. Distefano (*Riforma Medica*, August 12, 1905; *New York Medical Journal* and *Philadelphia Medical Journal*, November 11, 1905).

SCARLATINA, MILK AND.

The literature of milk-borne epidemics of scarlet fever contains many which are (a) based on insufficient evidence as to the agency of milk in the dissemination of the disease; (b) based on the erroneous belief that a disease in cows is capable of causing scarlet fever in man. The disease in cows supposedly responsible for scarlet fever in man is ordinary cowpox, and the disease in man supposed to be caused by it is either septic fever from infection from pyogenic organisms or coincident scarlet fever. There is no good evidence that milk from diseased cows can cause scarlet fever in man. After rejecting many reports of milk-borne outbreaks of scarlatina there remains a fair number which are above criticism, and which apparently prove that milk is a good culture medium for the scarlet fever virus, and is the most frequent agent of indirect infection in this disease. Alice Hamilton (*American Journal Medical Sciences*, November, 1905).

SILVER NITRATE IN THE STOMACH.

The writer found that silver nitrate has the property of increasing the acidity of the gastric juice, and the proportion of free hydrochloric acid. This increase takes place even in those cases in

which the general acidity has been in excess before the use of the drug. Therefore, silver nitrate is contraindicated in hyperacidity, in hypersecretion of gastric juice, and in round ulcer. The employment of silver in these affections should be condemned. Silver nitrate is used in ulcer of the stomach, because it is supposed to have a healing effect upon the ulcerated surface, but this effect is problematic, while the silver salts, increasing the amount of hydrochloric acid, may be useful in the treatment of diminished secretion of hydrochloric acid which usually accompanies chronic gastritis. In such cases there is usually a lessened power of digesting proteids. Silver nitrate, as shown by the author's experiments, may to a certain extent influence the very chemistry of a conversion of proteids, favoring their digestion. According to Hayem, the combined hydrochloric acid is the first stage in the digestion of proteids in which acid albumins are formed.

The experiments of the author show that silver nitrate usually increases the amount of combined hydrochloric acid. It also increases the digestive powers of the gastric juice. Therefore, silver nitrate is indicated in cases of diminished gastric juice and diminished acidity. In gastritis it may also act as an antecatharrhal remedy upon the mucosa. Silver nitrate, furthermore, prevents fermentation, the development of gases, belching, eructations, etc. The motor power of the stomach is increased by silver nitrate as experiments show. The amount of stomach contents found in that organ an hour after a test breakfast was less after taking silver than before this drug had been given. It is rather doubtful as yet whether these effects of silver nitrate last any length of time after the drug is discontinued, but the

impression gained thus far is that it does not.

The dose of silver nitrate should be regulated, according to the indication. Large doses (0.03 gram three times daily) increase the flow of gastric juice as well as small doses (0.002 gram three times a day). But the latter are sufficient as a rule when it is considered that larger doses present the danger of argyrosis. The mechanism of the action of silver nitrate upon the secretory power of the stomach is still doubtful. The remedy may act upon the glands of the mucous membrane, or it may be absorbed into the blood, and through the circulation act upon the nerve endings of the gastric nerves. B. A. Baibakoff (Rousky Vrach, August 20, 1905; New York Medical Journal and Philadelphia Medical Journal, November 4, 1905).

SPINAL CARIES, COMPARATIVE VALUE OF DIFFERENT METHODS OF APPLY- ING PLASTER JACKETS IN.

Lumbar disease improves under any method, but with the balance in favor of the hammock. Dorso-lumbar and dorsal disease show a gradual increase by any method of extension that brings about a compensatory increase of the normal lumbar curve. High dorsal may be held by either form of dorsal support, provided the jacket is carried high in front. Care is necessary, however, to avoid postural defects. The ventral position is adapted for all cases of lumbar disease. It is also applicable to dorsal cases, when the portion covering the anterior chest is left until the patient is removed from the hammock, and the jacket is finished in the sitting posture, with the patient held back in the extended position. The dorsal position is adapted to disease in either the lumbar or dorsal regions, but particularly to the

dorsal. The fork is rather the more applicable to the dorso-lumbar and lower dorsal, and the rods to the higher dorsal cases. In the old cases with deformity, care must be taken to avoid lordosis. The control of this by the flexed thighs is more apparent than real. The poise or balance in the standing position after application of the jacket is a valuable guide and should be taken into account.

The most accurate way of estimating the weight of the finished jacket is by the weight of the rolls before wetting. The shrinkage in weight is equal to about 9 per cent. of the rolls before wetting. A jacket of about 1 pound (12 to 14 ounces) should be sufficient for a child of 3 to 5 years of age, and a jacket of 2 pounds 10 ounces weight sufficient for a child from 10 to 12 years. E. G. Brackett and L. R. G. Crandon (Boston Medical and Surgical Journal, November 9, 1905).

TABETIC FOOT.

From a study of a series of 15 cases of tabes, the authors state that unquestionably the foot of a tabetic with any degree of ataxia in the lower extremities is a pronated foot. The effect of this pronation leads to muscular strain on the ankle, knee, hip, and spine. This, together with the hypotonia, tends to break down the long arch, thus producing a faulty mechanical instrument by which walking is accomplished. The pronated foot plays an important and hitherto unrecognized rôle in the production of the ataxic gait in tabes. Correction of this faulty mechanism tends to increase the ability of a tabetic to learn to walk normally. In conjunction with the Frænkel method of exercise treatment, the correction of the faulty mechanism of the foot offers the most favorable treatment for the ataxic gait of tabes dorsalis.

S. I. Schwab and Nathaniel Allison (Journal American Medical Association, December 16, 1905).

THYMUS GLAND IN CHILDREN.

The usual weight of a microscopically normal thymus in a child under 1 year is under 100 grains. Children suffering from "primary atrophy" or marasmus commonly, but not always, exhibit fibrotic changes in the thymus; the weight and size of the organ are also usually diminished. Children suffering from "secondary atrophy" exhibit similar changes, but they are not so constant. Possibly some other factor than mere malnutrition or starvation may produce these fibrotic changes, as in a case where pure starvation was produced by congenital stenosis in the alimentary tract they were not observed.

In cases of acute illness in children fibrosis of the thymus may accompany general wasting. It is difficult in these cases to exclude previous disturbances of nutrition, at any rate among hospital patients. Enlargement of the thymus and other lymphatic structures in the body may occur as the result of acute toxic absorption (as in diphtheria) or a more chronic condition (as in lymphatism). In these enlarged thymus glands eosinophile cells are numerous but no special types are peculiar to either class. In some conditions, especially in tuberculosis, cells with basophile or neutrophile granules seem to replace the eosinophiles. In congenital heart disease eosinophiles are not found in the thymus. True hyaline degeneration very occasionally occurs in Hassall's corpuscles. Fatty degeneration of the cells is common and appears often to affect the peripheral zone of the lobules. J. M. Fortescue-Brickdale (Lancet, October 7, 1905).

TYPHOID FEVER, PERFORATION IN.

Perforation in typhoid fever is a much more common condition than is generally supposed, being responsible for about one death in every three cases. The most common time of perforation is between the fourteenth and twenty-first day of the disease, and occurs in all grades of severity, from the ambulatory to the hæmorrhagic type, and does not seem to be any more common in the hæmorrhagic than in the milder types of the disease. The ileum is the most frequent site of perforation, in the majority of instances the perforation occurring within 12 to 18 inches of the ileo-cæcal valve. The next most frequent sites of perforation are the appendix and the cæcum.

In a large percentage of cases pain is present, although it may be transitory in character. In about one-half of the cases the onset is sudden, severe, and with increasing intensity, localizing itself in the region of the right iliac fossa. Tenderness and rigidity are present to a certain extent in all cases. The latter symptoms are regarded by the author as a most valuable sign, and it is never wanting except in patients with unusually large and pendulous abdomens. When perforation is suspected the temperature should be taken every hour, as it is only in this way that definite conclusions can be drawn with regard to any marked variation in this symptom. Distention is a late symptom of perforation, usually not making its appearance until some hours after the perforation has occurred. The obliteration of the liver dullness is not regarded as a reliable sign of perforation.

The study of the leucocytes is of little aid, although occasionally their increase

may make the diagnosis more positive. The differential count is of no practical value. Before a positive diagnosis is made, pain caused by a pleurisy, pneumonia, cholecystitis, acute gastro-intestinal indigestion, iliac thrombosis, appendicitis, peritonitis, the passage of a renal calculus, distended urinary bladder, or even a hæmorrhagic exudate into the abdominal muscles, must be carefully considered. Any of these conditions may cause symptoms similar to those caused by intestinal perforation.

Nature may occasionally close one or more perforations, but the only rational procedure where perforation occurs is surgical intervention. No case is too desperate for an attempt, as it has not infrequently been noted that the mild cases succumb and the more desperate ones recover. In cases of doubt where the symptoms point to perforation, the safest procedure is to operate. As a rule, cases operated on and no perforation found seem rather to be benefited than otherwise by the operation.

When the diagnosis has been made, the writer states that there is no condition, except possibly that of hæmorrhage, where speed in operating is so important a factor in securing success as it is in intestinal perforation. Everything should be carefully prepared beforehand and all conditions considered, so that when the knife is once taken in hand things may move with rapidity and without interference. In too many instances it is a race with death and there are often anxious moments when it is questionable which will win, yet in only 5 reported cases has death occurred before the operation was completed. A death on the table is always a most distressing occurrence in surgery, but doubly so if the surgeon has in any way

to blame himself for delays which might have been prevented by care and forethought. R. H. Harte (*Journal of the American Medical Association*, October 28, 1905).

UTERINE CURETTAGE.

Uterine curettement is so pregnant with disastrous possibilities that it should only be essayed by one who is so skilled and trained in aseptic methods that he can protect his patient from danger of infection. The procedure in the most careful hands may be attended with perforation of a softened uterine wall. The occurrence of perforation does not of itself demand an abdominal section for closure of the opening, for the great majority of such injuries recover without any serious symptoms.

In injury of the intestine from perforation and the dragging of a loop of intestine through the opening, or in the presence of sepsis, the peritoneal cavity should be opened by abdominal section in the former, and the injured intestine be treated by suture or excision, as the lesion may demand, while in the latter the section may be either abdominal or vaginal, as the operator may prefer. E. E. Montgomery (*International Journal of Surgery*, November, 1905).

WET DRESSINGS.

Wet dressings are advocated by the writer as opposed to dry occlusion in the treatment of infected wounds. He maintains that wet aseptic and antiseptic dressings present the important advantages over dry dressings, that they prevent the coagulation of the secretion of the wound upon the dressing material, while they completely absorb the secretion, and thus have a favorable influence upon the healing of infected and suppurating wounds. The advantage of

dressings moistened with a 0.1 per cent. of caustic soda is not so much due to the influence of the chemical employed, as to the fact that the compresses are moist. He reports a number of cases of infected wounds in which wet compresses accomplished very satisfactory results. Weak solutions of chinosol 0.1 per cent. in strength, or a weak solution 2 per cent. of ichthyol were employed. M. A. Zausloff (*Roussky Vrach*, September 17, 1905; *New York Medical Journal and Philadelphia Medical Journal*, December 16, 1905).

XANTHELASMA AND CHRONIC JAUNDICE.

Four-fifths of the cases of xanthoma multiplex in adults occur in chronic jaundice. In these cases men and women are about equally affected, with possibly a slightly greater frequency in the latter. The hepatic condition causing the jaundice has been found to be gallstones, stricture of the bile-ducts, atrophic and hypertrophic cirrhosis of the liver, hydatids, and cancer. In addition to the skin, the tendons and mucous membranes may occasionally be involved. The onset is said to be most frequently on the eyelids. The xanthomata accompanying jaundice are believed to be directly traceable to the latter or to some associated toxic substance circulating in the blood. Symmetry in distribution is often striking, and the tendency to develop in the folds and creases of the joints is a remarkable feature. The views as to the actual nature and sequence of tissue changes in the lesions vary much. Crocker thinks that inflammation is the primary factor and that the xanthoma cells and connective-tissue growth are secondary, and that the whole process is of toxæmic origin. Williams's careful histological study in-

dicates strongly that the xanthoma are of endothelial origin. Once they develop they rarely disappear. Spontaneous involution is rare. No treatment other than surgical in suitable cases is of any avail. The indications are to relieve the underlying process if possible. T. B. Fitcher (*American Journal of the Medical Sciences*, December, 1905).

THE NEW YORK JOURNAL AND THE MEDICAL NEWS.

The New York Medical Journal, which some time ago incorporated The Philadelphia Medical Journal, has now absorbed the Medical News; Dr. Jelliffe, the editor of the latter, will henceforth collaborate with Dr. Foster in the editorial management. An advisory editorial staff consisting of Dr. Nicholas Senn, of Chicago, Dr. Frederick C. Shattuck, of Boston, Dr. James M. Anders, of Philadelphia, Dr. Jefferson R. Kean, of the United States Army, and Dr. Randolph Matas, of New Orleans, has also been added. These gentlemen, who are all of more than national reputation and all actively engaged in the teaching of medicine, will from time to time contribute editorial articles that are certain to be of peculiar value.

We cannot but express regret that so excellent a journal as the Medical News, should have passed out of existence, but the appearance and contents of the New York Medical Journal in its new garb, suggest that it will embody so many valuable points that the profession will be fully compensated for its loss.

THE AMERICAN JOURNAL OF CLINICAL MEDICINE.

The January issue of The Alkaloidal Clinic appeared under its new name, The American Journal of Clinical Medicine. The managers have added to their editorial staff, Dr. Wm. J. Robinson, who will conduct a department of "Dermatology and Genito-urinary Diseases;" Dr. Emory Lanphear, who will conduct a department of "Surgery, Obstetrics and Gynecology;" and will eventually add other departments as soon as arrangements can be made therefor. Active principle therapy, surgery, synthetic chemistry, massage, electricity, serumtherapy, hydrotherapy, radiotherapy, etc., will be included among these, the aim being to afford the reader all that is most helpful and practical in the realm of medicine. While opposed to proprietary and secret nostrum advertising, the managers purpose to stand for the honest pharmacists, decrying all attempts to estrange them, since their interests and those of the profession and therefore of suffering humanity, are mutual. We hope the "American Journal of Clinical Medicine" will receive the large patronage it deserves.

Book Reviews.

A MANUAL OF DISEASES OF INFANTS AND CHILDREN. By John Rührhah, M.D. W. B. Saunders & Co., Philadelphia and London, 1905. Price, \$2.00.

The little volume which Dr. Rührhah has put forth, is, as he says, not to supplant the larger and necessary text-book, but to enable the student to grasp quickly the more important points on pediatrics. It is likely to prove of much service. Books of this size and scope are well adapted to the use of the under graduate student and far better than the avowed "Quiz Compenda," "Essentials" etc. This book is uniform in size and make up with that excellent book by A. A. Stephens on "Practice." The fact that Dr. Rührhah has already contributed in conjunction with Dr. Friedenwald a "Text-book on Diet" (the best one in our experience) gives importance at once to whatever he may say upon the subject of feeding of infants and children, and this chapter is unusually good. We would differ from the author in one respect. In the

preparation of milk modified at home, he gives the general direction, if the weather be warm the milk "must be pasteurized or sterilized immediately." It seems to us, that greater emphasis should be laid by all advanced thinkers on infant diet upon the importance of using, whenever possible, unchanged milk in its original integrity. Of course this means that greater trouble and expense is involved, but in this regard the Public needs education. The illustrations are excellent, just enough to make most of the points which require graphic demonstration clear. In Treatment there is a very judicious presentation of methods and medicine.—J. M. T.

FOUR EPOCHS OF WOMAN'S LIFE. By Anna M. Galbraith, M.D., author of *Hygiene and Physical Culture for Women*. W. B. Saunders & Co., Philadelphia and London, 1903. Price, \$1.50.

The reviewer had not the opportunity of becoming familiar with this work in its first edition, but it promises to be a sort of book which he feels confident will supply many practical needs in the future. The statements are in many instances over emphasized, the author going too far in condemning certain practices which are not only matters of indifference but which really cannot be controlled. The candor as to some matters is commendable, but it is doubtful if it is wise to offer so many suggestions to young women in the same volume with others proper for older ones. At least a mother can learn a lot from this book which she can modify and retail to her daughter with the utmost advantage. It is useless to say more about the volume than to indicate that it consists of four parts: first, Maidenhood; second, Marriage; third, Maternity; and fourth, Menopause,—with a total of 16 chapters. The writer is obviously a woman and physician of wisdom and experience, she is more over equipped with excellent feeling, sympathy and tact. The book should be highly recommended to all physicians, first for their own reading, and second for them to spread it abroad among their female patients and friends, and, most important than all, their families.—J. M. T.

HEALTH, STRENGTH, AND POWER. By Dudley Allen Sargent, M.D. H. M. Caldwell, Publishers, New York and Boston.

Dr. Sargent has given us already a large number of essays and some books upon an important subject, namely, the improvement of the human body, especially in the departments of muscle building, increased endurance, and personal hygiene. His reputation is extraordinarily high, partly because he has always kept himself in a prominent position before the public, and made it more so by his method of presenting his views, and particularly because he has exhibited great abilities in anthropometry. He has devised some clever and original methods of making records and comparative estimates, and has also adopted whatever devices have come under his observation, although he might have been often more generous in giving others credit where it is due. In his researches, there is much of shrewdness and intelligent selection exhibited, until he has demonstrated great ability in impressing the public with his knowledge. The book under consideration is expressed in a direct dogmatic form, useful in some ways, but not so convincing as it would be had he exhibited more clinical knowledge of human ailments, and developmental faults which one has the right to expect of a medical graduate. Unfortunately for the value of his writing, he shows little evidence of having had experience in practical medicine. The contents of the book under review is fairly complete in covering the ground from youth to age, but there is the general assumption that any one is capable of doing whatever he recommends. Nevertheless dogmatism is needed to seize and hold the attention.—J. M. T.

A TEXT-BOOK OF DISEASES OF WOMEN. By Barton Cooke Hirst, M.D. Second Edition, Rewritten and Enlarged, with 701 Illustrations. W. B. Saunders & Co., Philadelphia and London, 1905.

The second edition of this work will more firmly establish the reputation of its predecessor as one of the best text-books on Gynecology. It is written in the clear, direct and concise style of an experienced teacher, which makes the reading of it a pleasure. The author has adopted an anatomical in preference to a pathological classification of the subjects. The

first chapter on gynecological examination and local treatment will prove of special value to the student and general practitioner. Detailed descriptions, aided by appropriate illustrations of methods employed in office treatment, will prove a boon to the non-expert. In this section, Schatz's metranokter is wisely resurrected as a valuable aid in intra-uterine diagnosis and treatment. Anomalies of development have received liberal attention. In the chapter on diseases and injuries of the vagina and pelvic floor, the details of the various operations are minutely and clearly described, and carefully illustrated. Stress is laid upon the palliative treatment of displacements and diseases of the uterus. In the operative treatment of retro-displacements, the author declares his preference for ventro-suspension, the Alexander, the Ferguson-Gilliam and the Doleris-Richelot operations. There are good chapters on diseases of the tubes, extra-uterine pregnancy, and diseases of the urinary tract. A chapter on detailed technic of gynecic surgery of 89 pages, should prove of value to many. The book is typographically well made, the illustrations, with some exceptions, are instructive; the photomicrographs are of no value, as they fail to bring out the more minute histological character of the tissues.—T. A. E.

DISORDERS OF METABOLISM AND NUTRITION. A Series of Monographs by Prof. Dr. Carl von Noorden, Physician-in-Chief to the City Hospital, Frankfurt-on-Main. Authorized American Edition, Translated under the Direction of Boardman Reed, M.D. The monographs constituting this series which have thus far been issued number seven, with the following titles: Part I. Obesity. Part II. Nephritis. Part III. Colitis. Part IV. The Acid Auto-Intoxications. Part V. Saline Therapy. Part VI. Drink Restriction. Part VII. Diabetes Mellitus. A volume on Gout in preparation. These monographs are sold singly, the prices ranging from 50 cents to \$1.50, or all complete for \$5.00, postpaid. E. B. Treat & Co., Publishers.

The publishers of these admirable monographs are to be congratulated on the form in which they are presented. While the whole series constitute a treatise upon the general subject of metabolism, each monograph is complete in itself, and of convenient form to read or carry. It would be interesting to criticise each in turn, and at some length, but this is impossible. The books warrant attention because of the high standing and practical wisdom of the author, and there is probably no one better able to speak authoritatively and to teach how to secure clinical results. We regard these books as a great addition to our library.—J. M. T.

Books and Monographs Received.

The editor begs to acknowledge with thanks the receipt of the following books and monographs:—

Movable Kidney. A Cause of Insanity, Headache, Neurasthenia, Insomnia, Mental Failure and other Disorders of the Nervous System. A Cause also of Dilatation of the Stomach. By C. W. Suckling, London: H. K. Lewis, 1905.—Transactions of the Clinical Society of London. Volume Thirty-eight. London: Longmans, Green, and Co., 1905.—Lectures on Auto-Intoxication in Disease, or Self-Poisoning of the Individual. By Ch. Bouchard, Paris. Translated, with a Preface and New Chapters added, by Thomas Oliver, London. Philadelphia: F. A. Davis Co., 1905.—Partial Turbinatectomy Followed by Acute Otitis, Mastoiditis, Sepsis, Paracentesis, Mastoidectomy, Ligation and Excision of Internal Jugular Vein; Recovery. By C. H. Knight and J. F. McKernon, 1905.—Notes on the Treatment of Hay Fever and Asthma. By C. H. Knight, New York City, 1905.—The Choice of Technique in Prostatectomy. By J. R. Wathen, Louisville, Ky., 1905.—Diphtheritic Hemiplegia: A Case with Commentary. By J. D. Rolleston, London, 1905.—Professional Compensation: The Right and Its Enforcement. By Hon. William W. Porter, Philadelphia, 1905.—The Conservative Treatment of Chronic Suppuration of the Frontal Sinus. By W. E. Casselberry, Chicago, Ills., 1905.—Tonsillectomy by Forceps and Snare. By W. E. Casselberry, Chicago, Ills., 1904.—Papilloma of the Larynx in Children. By J. Payson Clark, Boston, Mass., 1905.—Retarded Development

of Speech in Young Children. By G. Hudson-Makuen, Philadelphia, 1905.—Report and Exhibition of Two Interesting Cases; One a Curious Laryngeal Lesion and the Other an Unusual Form of Stammering. By G. Hudson-Makuen, Philadelphia, 1905.—Speech Training as a Factor in the Development of the Feeble Mind. By G. Hudson-Makuen, Philadelphia, 1905.—Regulation of Color Signals in Marine and Naval Service. By C. A. Oliver, Philadelphia, 1905.—A Study of Simultaneous Contrast Color Images. By C. A. Oliver, Philadelphia, 1905.—A Brief Note on the Relative Virulencies of Differently Tinted Colonies of Chromogenic Bacteria. By C. A. Oliver, Philadelphia, 1905.—A Plea for Governmental Supervision of Posts Necessitating Normal Perception of Color. By C. A. Oliver, Philadelphia, 1905.—A Case Illustrating the Inadequacies of the Present Methods for the Recognition of Distant Color Signals; with a Series of Brief Plans for Remedying the Same. By C. A. Oliver, Philadelphia, 1904.—The Ophthalmic Subjects Treated of in the Code of Hammurabi. By C. A. Oliver, Philadelphia, 1904.—Incubation and Incubators. By R. H. Wood, United States Department of Agriculture, Washington, D. C., 1905.—Grazing on the Public Lands. Extracts from the Report of the Public Lands Commission. United States Department of Agriculture, Washington, D. C., 1905.—Cement Mortar and Concrete: Preparation and Use for Farm Purposes. By P. L. Wormeley, Jr., United States Department of Agriculture, Washington, D. C., 1905.

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Sajous's Analytical Cyclopædia of Practical Medicine.

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Editorials.

DEPARTMENT IN CHARGE OF
J. MADISON TAYLOR, A.M., M.D.

THE PHYSICAL EXAMINATION OF INFANTS AND YOUNG CHILDREN

THIS subject is not given adequate space in the average text book on diseases of children, nor is it dwelled upon sufficiently in medical schools, private practice or hospital work. The usual error among general practitioners of medicine is that

they examine their children patients along adult lines. Nothing could be more erroneous. Physical diagnosis in an infant or young child is a different proposition from that of adults, and to properly treat a baby he must be thoroughly and correctly examined. How few physicians examine their baby patients naked? Yet this should be the routine line of procedure. How few physicians carry with them a stethoscope so as to properly auscultate their little patients' heart and lungs? It is true that the average general practitioner has not the time to be a children's specialist along with his other duties, but yet there is no excuse for his not being able to make a correct physical examination of any infant or young child in his clientele. Many are the mothers who, in the course of conversation, let drop some remark about such and such a physician whom they had called in to see their baby a few weeks ago, who had told them that the baby's lungs were weak, etc., without even auscultating the chest or undressing the patient. How often do we hear the history of a child who some time in its little life had diarrhoea and meningitis, or pneumonia and meningitis both together? This generally means that the cerebral symptoms, which often occur with both diarrhoea and pneumonia, were taken *for granted* to mean meningitis, with no further physical examination to elicit other and more important diagnostic symptoms of the disease. How often do we see cases of pneumonia where the parents are earnestly and lovingly applying mustard plasters, blisters, etc., to the *well* side of the chest, while the affected side goes on untreated? This happens on account of the well lung making more noise and therefore claiming all the attention, while the weak, high-pitched, distant bronchial respiration on the affected side is not noticed. How many cases have we seen where the attending physician told us he could not get a good look at the throat because the child struggled so? Ask the next general practitioner you meet how he would obtain a sample of suspected tubercular sputum from a baby ten months old, and note his reply. How many in general practice are able to obtain a satisfactory view of the ear-drum in infants, to exclude possible ear disease in their cases of continued temperature with no assignable cause? Ask your general practitioner friend to locate for you the apex beat of an infant's heart, and without thinking he will involuntarily place his finger in the fifth intercostal space, half an inch to the right of the nipple line. He is instinctively thinking of an adult heart, for we all know, or should know, that the apex beat in an infant is nowhere near the spot where it is found in adult physical diagnosis. The apex beat in babies should be located only by the use of the stethoscope. Why is it that almost every case of scurvy is treated as a case of rheumatism, when rheumatism in a child under two years old is the rarest thing in the world? How often do we see the most important element, inspection, entirely neglected in the physical examination of infants and young children? The average medical school does not give enough

time to the subject of physical diagnosis in children. There should at least be set apart one hour a week, where a class limited from six to ten men under a competent instructor should study physical diagnosis in the infant. True, in general practice, with a large clientele, it takes time to have your baby patients strip each time you examine them, but a proper diagnosis will repay many a man for the extra ten minutes' wait. Then again, parents will by this means be taught that whenever the family physician is called, the child is to be entirely undressed, and much of the physician's valuable time will be saved by the parents having undressed the child before the physician's arrival. Many is the time that we hear the remark from the parents: "Is it necessary to have my baby undressed?" Parents are always better satisfied with a physician who seems to "take interest" in their offspring and gives him a thorough examination, than they are with a physician who simply looks at the tongue and feels the wrist. Even in large and active clinics, where there is a children's service of forty babies a day, each new case is stripped and examined: when one gets accustomed to this routine examination of infants and young children, it is surprising how quickly and yet thoroughly it may be accomplished. If you know what is the matter with a baby, it becomes a very easy proposition to treat that case correctly.

THERON WENDEL KILMER.*

THE RELATION OF THE MANUFACTURING PHARMACIST TO THE MEDICAL PROFESSION.

IN a recent paper upon the subject of the "Secret Nostrum Evil,"¹ Dr. Frank Billings condemns the use of nostrums or secret proprietary medicinal preparations, and incidentally claims that while the reputable manufacturing pharmacists deserve great credit for the improvement they have made in pharmaceutical products, they have manufactured their own special mixtures, which are just as objectionable as the products of the special manufacturers. They too, have been active with their agents in visiting physicians and in distributing literature. This encourages drug-giving in specific mixtures for special symptoms, and is wrong. With the one hand they do good work, with the other much evil is done.

If this criticism means anything at all, it means that reputable manufacturing pharmacists have done much harm by marketing "specific mixtures for special symptoms." As a matter of fact, what they have done has been to market special mixtures for specific or pathologic conditions. Everyone knows that the specific drugs can be counted, almost, on the fingers of one hand,—iodine, mercury, iron, quinine, diphtheria antitoxin, and possibly a few more; and it would be folly for

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manufacturers to claim specific action for special mixtures where specific action cannot possibly be obtained. If some physicians have chosen, on their own responsibility, to use special mixtures as specifics for special symptoms, it is rather disingenuous, to say the least, to blame the manufacturers for it. The manufacturers have simply met the demands of medical men, and in no sense have dictated their policies.

Few, outside of those directly concerned, have any conception of the wonderful development that has taken place in the pharmaceutical and chemical industries of this country since the Civil War. It parallels the advance of the medical profession. New methods for the extraction of vegetable drugs, and the manufacture and purification of chemical compounds have been devised, and large numbers of products have been developed. In fact, as Zeig states:¹ "A new era in manufacture has been born, which, for its scope, the number and character of products manufactured, the mechanical devices and machinery employed, exceeds all the efforts of the preceding centuries." As he further points out: The modern laboratory contains tablet machines capable of compressing 200,000 tablets in ten hours; pill cutting machines and vacuum gelatin-coating machines, which, by means of vacuum tubes and two operators, can coat 75,000 to 100,000 pills a day; vacuum stills for concentrating extracts, by means of which the injurious heat-effects to vegetable drugs, occurring during the evaporation of percolates, can be obviated; centrifugal extractors and centrifugal filters, in place of the unsightly filter presses and filter stands of the past; power suppository machines; collapsible tube-closing machines; mass mixers; granulators; pulverizers; and scores of other labor-saving devices.

It is obvious that with such machinery, and the technical skill necessary to use it, together with improved processes, and a command of the best markets of the world, the modern manufacturer can make products that are cheaper and better in every way than was possible half a century ago, when such conditions did not exist, and that the retail pharmacist of to-day can buy such products at a less cost than he can make them. The manufacturer has not usurped the work of the retail pharmacist and deprived him of his revenues, as has been claimed, but instead, has worked to the interest of the latter, by relieving him of the necessity of making his own products, with just as much profit to himself, or more. A return to the old-time methods is impossible; evolutions, like revolutions, never work backward.

It would be strange, if, in view of all these advances, there had not come a corresponding advance in the manufacture of medicinal products for the use of physicians; and such an advance is exactly what has taken place. In appearance, in pala-

¹The Manufacture of Pharmaceutical Preparations, by H. C. Zeig, Ph.C., *American Journal of Pharmacy*, 1905, 465.

tability, and in effectiveness, the American pharmaceutical preparations, as a class, lead the world.

It has been questioned whether or not the proprietary system of non-secret medicinal preparations, as followed by reputable manufacturers, has been for the best interests of the medical profession, but a careful study of the question will show that it has come as a logical necessity, because it ensures a reliability and uniformity of product that can be had in no other way. E. R. Squibb and Son's Chloroform and Ether; Powers, Weightman and Rosengarten Co.'s Quinine and Morphine salts; Parke, Davis and Co.'s Cascara preparations; Fairchild Bros. and Foster's ferment products, and numerous other preparations are specific examples of the wisdom of such a system. Many manufacturers have sought to duplicate these products, and have failed, because they did not possess the special knowledge and skill acquired by these firms after years of painstaking study and the expenditure of thousands of dollars. The products named, chemical and pharmaceutical alike, are all non-secret, and they are all equally proprietary in character, because the specific knowledge and skill required for their production has not been divulged, but is held as a property right. Similarly, other proprietary products, not so well known, and having in some cases a few more ingredients, but non-secret, also, may be fairly placed in the same class. The difference, if any, is simply in the number of ingredients.

The proprietary medicinal preparations are protected by the use of the firm's name attached to their titles, or by means of trade marks, or both. In the past, the use of the firm name alone was sufficient for protection; to-day this does not suffice. Unfair competition compels manufacturers in many cases to use trade marks, in order to protect the consumer as well as themselves.

Perhaps the best illustration of the value of the proprietary system may be found in the one recently used by the Editor of "Medicine" in an editorial on "Patenting Instruments by the Profession." He referred to the famous Murphy button, which, as originally devised by Dr. John B. Murphy, contained a spring adjusted to a certain tension, so that when placed in position it produced sufficient pressure on the opposite edges of the peritoneum to cause pressure-atrophy, but without cutting through the tissues and causing necrosis. Dr. Murphy very carefully worked out the problem, but did not patent the button. What has been the result? The button has been copied by instrument makers who, observing that the two halves of the button were connected by a spring, simply used one *about* the same strength and size, with the result that a number of imperfect buttons were, and are upon the market. *There is no telling how many lives have been lost by the failure of Dr. Murphy to patent his button.*

Other examples could readily be given of apparatus devised by medical men,

and copied by instrument makers, wherein the cost has been cheapened at the expense of the quality. These cheaper patterns gradually displace the dearer, and untold harm results. The fine humanitarian impulse which impels a medical man to give his discoveries to the world "without money and without price" should command the highest of respect, but the old world does not appreciate the sacrifice, and in the end, the physician and the world both suffer.

As the editorial further states: "The trade mark not only protects the original inventor and maker of the article in the enjoyment of his reasonable reward for the invention, and for his expenditure in making the same known to the profession, *but protects as well the physician in the quality of the products furnished—in purity and uniformity and strength*—and, if an article of real worth, in its perpetuity; the trade mark protecting the same against displacement and final loss to the practice by cheap imitation, cheapened owing to competition, at the expense of quality in the product. The trade mark protection also enables its wide publicity and distribution, and at a lower cost to the patient than a like quantity and quality of medicine under any other method, thus securing the greatest good to the greatest number."

However much medical scientists may wish the development of rational therapeutics, the fact remains that, to-day, a large majority of physicians are broadly empirical in their methods of treatment. They follow the teachings of physiological actions as far as they dare, but they recognize the fact that the physiological actions of drugs are not pathological actions, and that, in the end, the individuality of each patient must be reckoned with. Hence, if the physician can call to his aid, when necessary, the trained technical skill of the modern manufacturer, in devising new preparations, and in perfecting old ones, to meet individual conditions, it would seem to be the height of unwisdom to repel such assistance.

In the final analysis, the vital question to the work-a-day physician is not whether a given preparation is proprietary in character—because all medicinal preparations are, in a broad sense, proprietary—but, what is its composition; what are its clinical possibilities and limitations; will it yield the results claimed, and will it yield the results better than can be obtained in any other way?

The interests of reputable manufacturing pharmacists and physicians are mutual. They are both working for the same end—the common good of humanity. That the manufacturing pharmacist, as well as the physician, is in sympathy with high ideals, is shown by the research laboratories he has founded and maintained, and the work these laboratories have done for pure science, without any thought of commercial gain. It has been the habit of a certain class of medical men to sneer at pharmaceutical commercialism, as they term it, and assume that the manufacturing pharmacist has no interest in humanity, except that of dollars and cents. Such

a view is most unjust. Whether a man is in commercial life or in medical life "a man's a man for a' that and a' that," as dear old Bobby Burns put it; or as Wycherly expresses the thought, "I weigh the man, not his title; 'tis not the king's stamp can make the metal better." A man is honest or dishonest, he has high ideals or low ones, and he works for the right or wrong irrespective of his vocation. The quality of a man's work does not depend upon the nature of his vocation; it depends upon his fitness for the work, and his character as a man.

JOSEPH W. ENGLAND.*

THE PASSING OF THE GENERAL PRACTITIONER.

A COMMENTARY UPON THE PRESENT ATTITUDE OF THE SURGEON TOWARD THE GENERAL PRACTITIONER.

THE passing of the general practitioner in America is due to the fact that the public are no longer satisfied with his sympathy, *i.e.*, solicitude, his personal guidance. An enlightened people demand that medical advance keep pace with the gigantic strides made in other scientific pursuits, and ambitious medical men are certainly struggling to make good that which is expected of them.

As a sequence, physicians, when circumstances permit, are giving up family practice to their juniors, and seeking post-graduate instruction to perfect themselves in at least one line of specialism. After post-graduate courses have been taken, and their eyes have been finally opened to the fact that real medicinal therapeutic success is yet in anticipation to the whole profession, they turn again to general work, or a special line, such as surgery, as the only open door to definite results in combating disease. At the rate that this exodus into the surgical field is occurring, medicine will, ere long, be an aggregation of surgeons, with a subsidiary program of narcotic alleviation and "cutting it out," the bacterial prophylaxis being left to municipal, state, and national health boards.

It is now full time that members of the profession come to their senses, and that a new medicinal system of therapeutics be developed on a sound scientific basis; if not, the future of medicine is lost.

Already, American surgeons have been driven to open advocacy of the abolition of the "temporizing" with many diseases by physicians, and demand that cases showing certain symptoms be given over for operation in the early stages. Nevertheless, English surgeons express their amazement and horror at this trend of American surgery.

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Many remark that medicinal therapeutics has attained its ultimatum already; that the present stage of bacteriology teaches us that we have no opening for future development, only a more perfected system of health board prophylaxis; and else medical men resign themselves to sympathetic attendance upon the afflicted, to ameliorate their sufferings and await the definite course of "self-limited disease," give the patient over to the knife.

I grant that the present medical system has run aground, and there must be a revolution which will involve a revision of its very fundamentals, and all conclusions erected thereon. Medicine, as it is to-day, is the direct descendant of sorcery, necromancy, priestcraft, and such like admixture of superstition and conjecture, etc., depending upon experience and inference for its practices. It now must undergo a mutation as abrupt and pronounced as that which chemistry did when it evolved from alchemy.

That medicinal therapy is at the present time in need of a champion, in fact a savior, there is no room for doubt. The continued degradation of this, the genuine and original type of medicine; the onslaughts and inroads of surgeons; the hopeless attitude of physicians themselves; and the universal depreciation of a system which offers only specifics based upon empiric principles, and the resulting embarrassment, only too plainly foreshadow a future of well nigh universal surgery, supported by a paltry few medical men acting in the capacity of agents of the surgeons, eking out a precarious existence as diagnosticians, and from the miserable pittance obtained for prescribing for such simple cases as can be wrested from the public, by abolition of the proprietary medicine and self-treatment practices of the present day.

Contract practices and many other vicious customs, involving the loss of dignity of the profession, are sure to follow, with continued degradation of the province of the pure physician.

It is to be hoped that the prospects of such a future for the physician, in the event of a continuation of the present retrogression, will prove an incentive to physicians to forestall and remedy the evils.

In addition to the mentioned inconsistencies in regard to specific remedies, the present downward trend of pure medicine is largely due to the present state of development of pathology and pathologic anatomy, which take little or no account of any sort of structural bases of so-called functional diseases, and moreover no tangible etiologic agencies or pathogenic processes which should render them comprehensible, and no therapeutic principles are elucidated by the conditions thus enumerated.

The relegation of all processes, involving marked anatomical changes, to the surgeon, and the simultaneous recognition of the intangibility of functional disturb-

ances, practically divides the treatment between the surgeon on the one hand and the masseur, the spas, the osteopath, the mental healer, etc., on the other.

Ignorance of pathology admitted, and medical treatment discounted, the surgeon claims, and is awarded, domination in progressively earlier and earlier stages until he will have occupied the entire *medical stage*, and even now he presses to usurp the function of diagnosis, by exploratory incision.

In New York, where transgression by the surgeons has been most conspicuous, the "general medicine" men have been accused in a constantly increasing number of diseases of being under obligation to the patient and to the surgeon to call in the latter at so early a stage in the ailment that a successful surgical result shall be guaranteed, thus implying that it is malpractice to carry out a definite course of treatment by internal medicine, if followed by an unsuccessful surgical result.

Conversely, it has been argued that the period of most promising surgical intervention is identical with that of internal medicine, and if that period is to be allotted to the surgeon, the general practitioner practically steps down and out, at the very beginning of his own legitimate treatment period.

The surgeon argues that his own poor showing, namely, his bad results and high mortality, are due to the lateness with which he gets control of cases, and therefore he demands that the medical course be cut short in the early stages, and the case be delivered over to the knife. In fact, it was recently decreed that the stage in an obstinate dyspepsia, usually of consultation with a specialist, should be the one for surgical exploration for ulcers or neoplasms. Thus obliterating the specialist on digestive disorders and, by implication, other specialists, non-surgical, in the same manner.

What other construction is to be put upon the injunction of the surgeon that stomach ailments, intestinal disorders, appendicitis, sigmoid and rectal ailments, etc., should be surrendered in their early stages, that their continued treatment by the general practitioner is a source of great peril to the patient, thus placing him beyond the possibility of surgical intervention?

Surgical operations, even in this day of asepsis and improved technique, are still full of perils, with dangers of toxæmia, of anæsthesia, shock, and other and more secondary sequences, not to mention the after troubles of cicatrices. However good the excuses for their occurrence, unsuccessful *ultimate* results are not very satisfying in the face of the fact that the peril of the operation was incurred, together with a prodigious surgical bill, at a time when the medical resources had hardly, if at all, been begun, not to say exhausted.

How is a medical practitioner to explain to his patient his inability to medically treat an ailment which has come to him for that purpose, but to admit with humiliation that the present public confidence in the potency of medicine is

all a myth, and that we, as a profession, are practicing a system of humbuggery upon the public?

The above is not intended as an attack upon the surgeon, or upon conservative or even legitimate surgery; nor, in fact, is it intended to exhibit any but the practitioner's side of this grave situation. To him it is a real peril. He must swim or he will sink, find ground to survive, or he will, he ought to, perish.

As above insinuated, he must struggle to hold his own against the encroachment of the surgeon, who, with true American enterprise, is enlarging his field and improving his position, wherever duress, coercion and trespass shall accomplish his purpose. But the situation bespeaks another and more enduring lesson; viz: that the *physician* must take on new life. He must revolutionize present methods and honestly struggle to maintain a higher position, loftier, clearer standards of medical treatment. To this end, *he must do his own thinking*, and form his own conclusions on medical topics, keep fully informed, but not let others do his thinking.

I personally believe that the present overgrowth of bacteriology, or perhaps rather the undue encroachment of bacteriology on the field of etiology, more than any other one factor, is the cause of the stagnation and retrogression which are now so strongly spelling ruin and obsolescence to the general practitioner.

The aim and trend of bacteriology has been, and is now, to narrow pathology down to a bacterial basis, on the ground that all diseases are of micro-parasitic origin, and therapy must stand or fall on its parasiticide capacities. While comparatively few diseases have been *proved* to be of parasitic origin, yet the inference is maintained that future discovery must be in that direction, and *finally* a revised pathology, therapy, and nomenclature are to be on a bacteriologic basis.

Upon the finding of organisms in a few diseases, a system of parasiticide (antiseptic) medication has already seen its rise and fall. Electrical and photo rays have already failed in the role of parasitocidal powers; and the medical practitioner with all these anticipations and blasted hopes is certainly in a favorable condition to be resigned to the inevitable, and to be ready to deliver over the major part of his practice to the surgeon to cut out the infected or the supposedly invaded tissues.

Here is the "poisoned cup" which the pure medical man must view with suspicion, and handle only with his eyes fully open. Parasitic organisms are neither initial nor ultimate etiological factors; they are worthy of attention, but in chemical etiology and pathology lie the secrets of pathology, and the bases of the successful medicinal therapy of the future.

HOMER WAKEFIELD.

CURATIVE FACTORS OF CLIMATIC CONDITIONS NATURAL TO THE NORMAL ENVIRONMENT.

A COMMENT ON MAJOR CHARLES E. WOODRUFF'S VIEWS ON THE EFFECTS OF
SUNLIGHT AND CLOUDINESS.

THE valuable observations, and careful scientific analyses of actualities made by Major Woodruff, Surgeon U. S. A., have secured much popular attention. The lay press has commented on these, some times incorrectly; the Medical Journals have not always seized the point of view which seems to the writer intended by this observer. Having heard Major Woodruff speak, as well as having read his writings, certain clinical conclusions reached from what he says warrant presentation.

The medical profession has rather recently come to the conclusion that the treatment of protracted infections, like tuberculosis, as well as of fatigue states, grouped under the general term, nervous exhaustion, is best accomplished by long periods of quiet open air life. This is perfectly consistent with the obvious teachings of centuries of experience. For a long time, various special modifications of customary methods of living, or revolutionary measures, like protracted isolation and rest, together with a vast diversity of drugs supposedly of specific efficacy, were recommended. Since the measures were often ill chosen, or misapplied, not because they failed to furnish abundant potentialities if wisely used, the tendency now is to abandon them and depend chiefly, if not wholly, on abundant rest in the open air.

It has been assumed that because sunlight and warmth are agreeable, cheering, instinctively sought for by those well or ill, that by this alone we achieve much good in diseased states. Hence climatic conditions are "studied," but, as Major Woodruff has shown, not so thoughtfully as they deserve. He has made clear by his painstaking sifting of all available facts and logical reasonings on them, that we have fallen into error in too often assuming a paramount value for sub-tropical conditions for those people who, by race and conformation, are unfitted for conditions of life radically different from others. In short, he finds that those people whose natural habitat is one of constant sunshine, whose conformation, acquired resistance of skin, etc., have fitted them to survive the hurtful effects of too much heat, "short rays" of light, etc., can safely, and often times advantageously, live long in the tropics and maintain good health. Contrariwise, those whose habitat is dark, or largely cloudy, *e.g.*, the Scandinavians, in whose country, about the middle of the peninsula of Sweden and Norway, is the center of maximum cloudiness, are structurally unfit to survive the hurtful effects of excessive light and heat. As this center is left behind, at least in Europe, on radiating lines, cloudiness lessens and sunlight and heat increase. Also the blonde people grow fewer and brunettes more numerous. Further, history shows that

where the blonde races have conquered and colonized they soon disappear as such, leaving no definite racial impress. His personal observations of our troops in the Philippines show that blonde individuals, however robust originally, become readily subject to a most disabling, even destructive disorder, which he calls "tropic neurasthenia." The only cure for this is removal to a colder climate, whereby alone, often, recovery follows promptly.

These observations must be further studied with full consideration of modifying factors, such as light plus heat, and light plus cold, cloudiness plus heat, and cloudiness plus cold, and wet, elevation, etc. Indeed, it is a large problem, the full solution of which is of the utmost practical importance to the science of rational therapeutics. So far as it has proceeded, however, we may safely accept certain conclusions among which is the fact, that in dealing with tuberculosis and neurasthenic states we are safest in assuming that we may be pretty certain of attaining the best results by placing patients during treatment (whatever be employed) under conditions normal to their ancestral habitat, their conformation, their racial and personal peculiarities.

Lawrence Flick has frequently emphasized the fact, that to get the best results in tuberculosis, it is by no means necessary, often far from desirable, to remove patients from the vicinity of their homes. It is essential merely to secure those conditions of environment under which they can live as nearly as possible in suitable circumstances, not marred by artificial habits or requirements. These are long hours of sleep and rest, the waking hours to be spent out of doors, and at all times the fullest amount of open air and light obtainable, along with every natural device to encourage full nutrition and elimination. The simplicity of these rules should not blind us to the fact that often times we will meet with individuals who demand careful adjustment in accordance with healthy, instinctive desires, the result, it may be, of inheritance. Some may be found to need change from low to high levels, from colder to warmer climates, or from warmer to colder, from dry to wet even, to meet temporary cravings or constitutional requirements. All this is the province of the thoughtful, observing physician, in full possession of the fundamental laws of physiology and pathogenesis.

Again, the simplicity of mere climatic fulfillments will often not suffice. Here is demanded a clear grasp of the essential principles of therapeutics, physical, educational, moral, and above all, medicinal. Most physicians who omit to learn accurately and apply the essential principles which underlie and condition the action of drugs on the economy, fail of their duty by more than half.

Unfortunately the present status of drug medication is so confused by empiricism, pseudo scientific conjecture, and false reasoning on inadequate premises, that we, and the public, are often in some despair, and the easiest course is to be-

come nihilists. This should not be. Light will emerge from the darkness here as elsewhere.

Merely to live under natural conditions is not shown to fully overcome the effects of disease. For example, many primitive people are now rapidly dying out, who yet live in their normal habitat, and under customary conditions. It is true the degenerating effects induced by contact with civilization must be reckoned with, but these alone ought not to be competent to so impair immunity. Here something definite is needed to reinforce immunity, and to control the powers of the body during disease, and for this we require the scientific and judicious use of drugs.

J. MADISON TAYLOR.

Cyclopædia of Current literature.

ADDISON'S DISEASE.

Addison's disease holds an important place among the various discolorations of the skin, on account of the constitutional changes which precede and accompany it, its frequently fatal termination, and its association with disease of the suprarenal bodies. The pigmentation of the skin in Addison's disease can only be regarded as a cutaneous manifestation of a deeply seated malady involving the mechanism which produces or governs the distribution of pigment in the body. Before any pigmentation is observed there is a gradually increasing debility, breathlessness on exertion, a rapid, feeble pulse, and weak heart sounds, and epigastric or hypochondriac pain. As the disease advances there are added to these, giddiness and faintness, anorexia, nausea, and vomiting. The nutrition is maintained and emaciation is unusual. The temperature remains normal or subnormal. Many of these symptoms resemble those of various forms of auto-intoxication. As the suprarenals are depurative organs, it is probable that the increasing debility and other symptoms are due to poisoning by

bodies (probably leucomains) resulting from the destruction of red corpuscles; and the staining of the skin, to the circulation of the products of disintegration of hæmoglobin. In many cases of Addison's disease the tuberculous or malignant disease of the suprarenal bodies is accompanied by degenerative changes in the semilunar ganglia and branches of the solar plexus; such a disturbance of the great splanchnic nervous system could not occur without corresponding subjective changes. W. Tibbles (*British Medical Journal*, December 30, 1905).

ALBUMINURIA IN NEPHRITIS AND BRIGHT'S DISEASE.

The author wishes to direct attention to the fact that albuminuria is an extremely common occurrence in various general diseases and that, though it may in a sense, indicate an inflammatory condition of the kidney, such inflammation or nephritis may be of merely pathologic rather than of clinical significance, unless the albumin is considerable in amount, and more or less constant in occurrence. The nature of the accompanying tube casts must not be relied on

too greatly to determine the seriousness of the renal lesion, and in particular, the presence of an occasional hyaline cast, or even the frequent occurrence of such, must not be regarded with too much apprehension. The modern method of centrifugation, and the consequent examination of quite fresh urine, increases the likelihood of the finding of casts, and there is often difficulty in distinguishing between the insignificant cylindroid of the mildest grades of renal irritation, and the definite hyaline cast of more decided disease. Even the latter, however, is so frequent in cases of arteriosclerosis, cardiac disease, hepatic disease, jaundice, and gouty affections without serious renal disease that its significance is more or less trivial, unless general clinical conditions accentuate the importance of its presence. The importance of urinary examination should not be estimated lightly; a trace of albumin, however, is too often magnified in importance in the physician's mind, and the clinical conditions as a whole are not sufficiently considered. Above all things, it is important in case of suspected renal disease that the urine be repeatedly examined, and its constant or fluctuating condition be taken into account. Alfred Stengel (*Journal American Medical Association*, January 6, 1906).

ALBUMINURIA OF PREGNANCY.

There are three main causes for the presence of albumin in the urine in pregnancy, according to the writer: 1, congestion of the kidneys; 2, toxic poisoning; 3, true Bright's disease—the so-called renal albuminuria. It occurs in from one to two per cent. of all cases of pregnancy. The so-called kidney of pregnancy may be due to congestion, pressure, toxæmia, or anæmia. The most

constant symptom of the kidney of pregnancy is albuminuria; the amount may vary from one half to one tenth of the urine examined. Oedema of the lower limbs is constantly present, and the patients complain of headache, at first intermittent, later continuous. Failure of vision is frequent, amounting merely to a diminution of sight in most cases. Vomiting is not constant nor usually severe. The kidney of pregnancy exposes the patient to three dangers: eclampsia; the development of chronic nephritis; and danger of partial or complete loss of sight. Only a small number of patients develop chronic nephritis (about 6 per cent.). The kidney of pregnancy tends to recur in subsequent pregnancies, mainly when it occurs for the first time in the early months of pregnancy.

The prognosis, if properly treated, is decidedly good. If the oedema continues, the vision remains impaired, the albumin does not diminish, then the outlook is very grave. If the symptoms remain after the induction of premature labor, the patient is liable to develop eclampsia, chronic nephritis, or uræmia. The treatment is that of acute Bright's disease. A woman suffering from chronic nephritis should be recommended not to marry, or, if she insists, not to become pregnant. G. F. Blaker (*Lancet*, December 23, 1905).

ALCOHOL AS A REMEDY IN DISEASE.

Although many of the exhaustive studies in the laboratory and experiments of alcohol and animal life conflict with clinical experience, all seem to agree that alcohol depresses and acts as an anæsthetic. Within the last few years alcohol has become less and less popular, and has been chiefly used for external application. Although medical liter-

ature still contains references to its value as a drug, its use is advised very timidly and with so many qualifications as to leave much doubt concerning its real value. T. D. Crothers (*American Medicine*, November 18, 1905).

ALCOHOL, INFLUENCE OF, ON THYROID GLAND.

A study of acute, non-suppurative thyroiditis and of the participation of the thyroid gland in acute infections and intoxications has been previously published by the writer. In the present article he studies the influence of alcoholic intoxication. The thyroid gland reacts in about the same way to microbial intoxications as it does to chemical poisons. The colloid substance becomes more or less granulous and filled with vacuoles, while it diminishes in amount. It ceases to stain with eosin and takes hæmatoxylin, while there is intense epithelial desquamation and hyperæmia. In examining the cadavers of pneumonia subjects he notices that those with a history of alcohol addiction showed these changes to a marked degree, while they were absent in the non-alcoholic cases. The thyroid must be added to the list of glandular organs susceptible to injury from alcohol. It might be interesting to study the indications of lacking or defective thyroid functioning in cases of chronic alcoholism. The knowledge of the changes induced in the thyroid gland by alcohol throws light on the development of spontaneous myxœdema or "hypothyroidism" in the children of alcoholics. Such modifications as those described, if they occur in the thyroid of the fœtus, might well explain its defective functioning later. F. de Quervain (*Semaine Médicale*, vol. xxv, No. 44; *Journal*

of the American Medical Association, December 2, 1905).

ALKALINITY OF THE BLOOD IN FEBRILE TOXEMIA.

Professor Loeb, of the University of California, in one of his papers on the subject of "Life," says that "the sodium ions of the blood are essential for the maintenance of life phenomena." This point had already been clinically urged by Sajous, when he stated that diminished alkalinity of the blood goes hand in hand with increased susceptibility to infection, and that in febrile diseases there is a direct ratio between a deficiency of sodium and death.

The following case presented in its course some features of interest, and the ultimate results, the writer is confident, were obtained largely through the recognition of the altered alkalinity of the blood, and its immediate clinical significance in its bearing upon the reserve forces, so essentially valuable in acute febrile disease, especially where pulmonary tissue is involved.

The case referred to by the author was one of right pneumonia in a sub-sthenic male, 44 years of age, and about three-fourths of the lung being involved. The pulse averaged 104, respirations 44, temperature (rectal) 104.2°; sputum was abundant, containing blood, fibrin, and mixed bacteria, Fränkel's diplococcus being in evidence. Alkaline drinks were given very liberally, and after the first twenty-four hours, a pint and a half of warm salt solution was given as a high enema every one and a half hours. The skin and kidney reactions were well sustained. The pulse was very variable, oftentimes deficient in tension, but no special stimulation was indicated.

On the fifth day, the patient became more distressed: the respirations were

more rapid and shallow; the pulse was intermittent, with reduced volume and tension, but with rate exaggerated; the face was jaundiced; the liver resistance and volume were increased; there was much venous pulsation in neck. The pulse suddenly dropped until its beats were far distant and feeble; the area of the right heart was increased and intruding upon the right pulmonary zone; the pulmonary heart sound became modified accordingly, while (and this was interesting) a rough murmur, presystolic in rhythm, was recognizable, with a superadded character which seemed to denote recent and progressive stenosis; the conclusion was that there was a fibrinous deposit in the right auricle extending into the adjacent ventricle. The radial pulse finally became so intermittent that it appeared at times as if it would never recover the beat. Mechanical respiration was initiated and sustained for a period of some five hours; while medication consisted of three minims of liquor ammonii portis and five minims of a 10 per cent. alcoholic solution of iodine mixed just at time of administration; a hot salt solution was given frequently as enema. No other stimulation or medication was employed. After six hours, the pulse in volume and rhythm became much improved, while at the end of twenty-four hours, the heart murmur was only faintly in evidence. Abundant crepitant râles appeared over the anterior surface of the upper third of both lungs. The iodide-ammonia treatment was sustained, longer intervals intervening in the administration.

Some fifty hours from the initial alarming symptoms as above noted, the pulse suddenly became flabby, not broken, and the body was bathed in a profuse perspiration. No heart murmur could be detected; this "spell,"

which the writer does not consider as of the same character as the first, rapidly responded to what was indicated—adrenalin and strychnine. Subsequent recovery took place by lysis; the lung cleared very nicely, the cardiac dullness became normal; jaundice and the hepatic conditions quite disappeared, and convalescence was complete. It is not illogical to conclude that, had the ordinary alcoholic and cardiac stimulants been used, and the blood surcharged with toxic waste, the chances of overcoming the grave central condition would have been reduced to an unconditional surrender. Acute febrile diseases have always seemed to the author to despoil nature early of many of her essential and defensive properties. This being so, it follows that the earlier these can be restored, the better will be the clinical results. There is almost too much straining after the mysterious in modern clinical medicine, and attention is apt to be engrossed by "microscopic evidence," while more grave factors are complicating a balance of reserve upon which the final prognosis must of necessity be dependent.

Clinically, it is often better practice to work backward toward a starting point than to press forward to a fanciful goal. No disease demands this consideration more urgently than pneumonia, which still registers a death rate seriously uncomplimentary to advanced medicine. F. W. D'Evelyn (Medical Record, December 30, 1905).

ANGINA PECTORIS.

In counting up the various symptoms of angina pectoris, the writer mentions as the chief symptoms the peculiar pain and sense of impending death. There is no real dyspnoea, and in many cases relief is found in short breathing. The

pain grips the chest as if held in a vise, radiating from there along the arm or arms (chiefly the left) to the ulnar side of the little finger, occasionally also to occiput, larynx, back, or scrotum. The pulse is little affected or not at all; the blood-pressure is always elevated. Conditions increasing blood-pressure often bring on an attack. The number and violence of attacks vary greatly; they may occur daily or nightly or not oftener than once a month. If care is taken, the patient can prevent many of them. Especially grave attacks may terminate fatally. Increase of pain while walking and the irradiations will serve to separate true from false angina pectoris. The prognosis depends on the underlying cause. The pathology of the condition is to be found in a sclerosis of the coronary vessels; the angina occurring in the course of syphilis, gout, diabetes, and aneurism is due to this; in other cases a spasm of the smaller vessels of the heart produces an anæmia and the pain described follows. This is noted in cases of tobacco poisoning, exposure to marked cold, gastric affections, gall-stone colic, neurasthenia, hysteria.

The treatment of the condition includes the forbidding of tobacco and alcohol, the regulation of the quantity of food, the instruction of the patient to rest after meals, and not to go out in rough weather. Of drugs he gives sodium iodide, theocin, and sodium acetate; also nitroglycerine. During the attack, cold or heat to the chest, amyl nitrite, inhalations of ether, morphine, aspirine, etc., are useful. A. Fraenkel (*Deutsche medicinische Wochenschrift*, vol. xxx, p. 571, 1905; *American Medicine*, November 25, 1905).

ANKYLOSTOMIASIS, EUCALYPTUS OIL IN.

The following is the routine method employed by the writer in the treatment of ankylostomiasis: About 6 p. m., the patient takes a saline purge and then fasts all night, and the next morning at 7 takes half of the following mixture:

R. Eucalyptus oil, *mxxxix*.

Chloroform, *mlij*.

Castor oil, *3x*.

In half an hour's time he takes the other half; he is kept in bed, still fasting, until the bowels act. Should any depression occur after the first half of the mixture is taken, the second half is omitted. In young boys, and in feeble, anæmic patients, the dose is divided into thirds and given at twenty-minute intervals. The dose can be repeated every other day. This effects a considerable saving of time necessary for treatment. As a rule, from three to four liquid stools follow, though sometimes only one. In the first stool there are no worms, and in the first solid stool after the medicine has ceased acting there are also no worms. The worms are expelled alive. L. P. Phillips (*Journal of Tropical Medicine*, December, 1905).

ANTIDIPHThERIA SERUM, DOSAGE OF.

The writer tabulates statistics from various countries to sustain his assumption that antidiphtheritic serum should be given in large doses (5000 to 15,000 units) in the severer cases of diphtheria, irrespective of age. The moderately severe cases can be treated with moderate doses (3000 to 4000 units). Intravenous injection in the extremely severe cases has a prompt and certain curative action, without serious by-effects, even when colossal doses are used. He claims that the published statistics show that insufficient doses have been given in

many instances. Injection of large doses of the serum also proves effective even against diphtheritic paralysis. H. Suber (*Hygiea*, July 7, 1905; *Journal of the American Medical Association*, November 18, 1905).

ASTHMA.

Attention is first called by the writer to the fact that the phenomena of asthma are those of exaggerated breathing, but with this difference: that the importance of all the adjuvant mechanism of respiration fails to produce that fuller and easier breathing toward which all the powers of the patient are bent. There is a very large increase in the relative amount of residual air in the chest, due to impeded escape of air. It is quite probable that the obstacle to the egress of air may be largely relative, the preponderantly active muscles of inspiration overpowering the weaker expiratory act. It is possible, however, that tumefaction of the mucous lining of the tubes may cause actual narrowing.

It is well known that the effect of drugs in asthma is most variable; depressant remedies most certainly relieve the spasm and allow of sufficient expiration to reduce the rigid inspiratory fixation. The author's idea is to accomplish this mechanically—*i.e.*, to aid the expiratory efforts in their struggle with inspiration. He first tried the following method with success in two adolescent cases. With one hand on the back and one on the front of the chest, it was emptied with a prolonged wheeze at the end of each inspiration. During inspiration the hands were raised from the chest. The patients expressed relief from the sense of strain and stifling. During the last two years he has frequently tested the utility of artificial expiration in the attack of spasmodic asthma, and has

never failed to give relief. A. Morison (*Lancet*, November 25, 1905).

BLOOD, ACTION OF THE RÖENTGEN RAYS UPON THE.

The more immediate effects of moderately long exposures (three to five hours) to the Röntgen rays upon the blood of rabbits and rats have been studied by the writer and he arrives at the following conclusions: The Röntgen rays cause a marked diminution in the absolute number of leucocytes in the peripheral circulation. Preceding the leucopenia, there may be a moderate rise in the number of leucocytes eight to twelve hours after the exposure, the increase being due largely to the greater number of polynuclears. The lymphocytes are especially susceptible to the action of the rays. Alterations in the histologic characters of the lymphocytes and polynuclear amphophiles may be found in the rabbit, similar to those described in the lymphoid tissue and bone marrow. The harder the tube, the more pronounced the changes produced. No changes in the red blood cells or hæmoglobin take place within the first few hours following moderately long exposures. R. S. Morris (*American Medicine*, December 2, 1905).

BRAIN TUMORS, ESTABLISHMENT OF CEREBRAL HERNIA FOR INACCESSIBLE.

Inasmuch as the symptoms accompanying brain tumor are due to the pressure effects of a slowly enlarging foreign body, the writer states it should be possible to relieve them by allowing the compressed brain to protrude through an artificial opening in the skull. In younger individuals this may occur through separation of the already fused sutures. The writer has seen three instances of this kind. He says it would

be a mechanically ideal treatment for cases of inaccessible tumor if in adult life it were possible to bring about such a dislocation of the sutures in the cranial vault. As this cannot be done, recourse must be had to decompressive methods which are less perfect inasmuch as they do not so evenly distribute the compression. In order to control the growth of the cerebral hernia, the writer now makes the bone defect under the temporal muscle. The advantages are many. An oval opening may easily be made, about five or six by eight or ten centimeters in its two diameters without freeing the muscular insertion at the temporal ridge. Being in a comparatively thin and relatively non-vascular portion of the skull, the bone is easily rongeured away and the opening on one side alone is usually sufficient for decompressive purposes. Should it prove not to be, a bilateral operation of the same kind may be made. The denuded area of the cortex exposes, for the most part, the convolutions below the fissure of Sylvius, including only the very lowest part of the motor strip, so that, even in cases of extreme unilateral bulging, the greatest harm that would ensue would be from an implication of the center for the tongue, jaw, and lower part of the face on the one side. The incision is entirely within the hair margin, and the degree of protrusion that may take place under the protection of the muscle may not be at all obtrusive. The author states that the results obtained by this method have been most gratifying. H. Cushing (*Surgery, Gynecology and Obstetrics*, October, 1905).

BREAST OPERATIONS, PREVENTION OF CICATRICES FOLLOWING.

According to the author, the best results are obtained by making the incision

high up on the chest, and rectangular; the apex of the incision should be just beneath the acromion process, the inner limit parallel to the fibers of the pectoral, and the outer parallel to the long axis of the humerus. The incision permits of removal or division of both of the pectorals and allows the greatest latitude for axillary dissection. Next to the rectangular, the sinuous incision favored by Rodman causes the least disturbance from contraction. If the skin is involved, the line of incision must be accommodated to the extent of excision of the skin demanded by the pathologic condition, and semicircular flaps rolled from the chest, back or shoulder should be so formed as to cover the denuded area. These, however, should never be united so as to form a straight scar at the anterior axillary line. The best muscle to cover the important structures of the axilla is the lower part of the pectoralis major. Its aponeurosis should be removed with the breast, as the aponeurosis, and not the muscle, carries the lymphatics, in which metastasis occurs. The muscle is then cut from its costal attachments for a width of from 2 to 2½ inches, well toward the sternal margin, and split outward parallel to its fibers, allowing the humeral attachment to remain. The remaining portion of the pectoralis major, its fascia, the pectoralis minor and its fascia, may or may not be removed, depending on the operator's predilection in this matter.

When the dissection of the axilla is complete, the pectoral flap is drawn across the nerve artery and vein, and fixed at the apex of the axilla, covering the anterior and inferior surface of these structures. Three or four stitches are sufficient for the purpose. Two or three additional sutures may be made attaching the flap to the latissimus or subscap-

ularis. If the latissimus is used, it should be divided well down, 2 inches of its margin and fatty tissue freed and the muscle split upward toward the humeral attachment, the flap drawn forward and upward and attached in the same manner as the pectoralis, to cover the axillary structures. The skin flaps are then placed in position in the usual way.

After these procedures there is a fullness in the axilla, but this rapidly subsides as the muscle atrophies. When the wound is closed, the arm is dressed at right angles to the body. It is held in this position by an axillary cast extending over the side of the chest and out over the arm to the elbow. The position is not uncomfortable. The cast immobilizes the structure during the process of repair. It can be removed at the end of ten days, when the stitches are taken out. There should be a perfect approximation of all the axillary surfaces when the operation is complete and the arm is dressed and placed in position. J. B. Murphy (New York Medical Journal, January 6, 1906).

BRIGHT'S DISEASE, DIAGNOSIS OF.

For the diagnosis of Bright's disease, the author states it is unnecessary to make minute distinctions. Clinically, there are the acute, subacute, and chronic forms, which often shade into each other almost imperceptibly. If an acute process is followed for months or years by a train of symptoms indicating constant disturbance of kidney function, a clinical diagnosis of chronic kidney trouble is justifiable, though at autopsy few anatomic changes may be found. It is perfectly proper to treat such a patient for renal insufficiency. Clinically, it need only be decided whether the lesions are predominantly either acute or chronic,

parenchymatous or interstitial. Strictly speaking, an acute nephritis must show an inflammatory exudate of serum, leucocytes, and erythrocytes between the tubules, but the degenerative changes are always present in the tubules and in the glomeruli. In chronic parenchymatous nephritis the secondary, or fatty and contracted kidney may be as small as that of a chronic interstitial nephritis, but it is distinguished from the latter by the fact that the stage of contraction was preceded by a stage of something else, and that the production of connective tissue was preceded and overshadowed by degenerative changes. In chronic interstitial nephritis the production of new connective tissue precedes or goes hand in hand with the degenerative changes in the tubules and the glomeruli. L. B. Pilsbury (American Medicine, December 23, 1905).

CAMPBOR, TOXIC ACTION OF.

After experimenting with camphor, the author concludes that it is a dangerous drug to use in patients with insufficient metabolism of carbohydrates, in cachectic and diabetic persons, or in individuals suffering from chloral hydrate poisoning. It is also dangerous in cases of carbonic oxide poisoning, of severe cardiac disease, of advanced bilateral pneumonia, of eclampsia, or of severe sepsis. It is contraindicated in cases of eclampsia and psychical excitement because its main action is upon the central nervous system. K. Happich (Zentralblatt für Gynäkologie; December 20, 1905; New York Medical Journal, January 20, 1906).

CONSTIPATION, CHRONIC, NATURE AND TREATMENT OF.

The prevailing view which attributes chronic constipation to a functional in-

sufficiency of the motor apparatus of the intestine is not satisfactory, at least for a large number of cases. The writer believes that the symptoms in many instances, especially of the atonic form, are due to an abnormality of digestion by which the food is exhausted to an extreme degree and very little residue is left behind. In consequence the intestinal bacteria do not flourish as they should and the decomposition products which ordinarily stimulate the intestinal walls are not formed. In his attempts to add to the diet some harmless substance which should add bulk to the feces and prevent them from becoming dry, the author finally hit upon agar-agar. This is tasteless and unirritating, but when given dry mixed with the food in doses of 25 to 50 grams it increases the bulk and moisture of the feces very notably. As it is not stimulating to the intestine in many cases it is advantageous to add to it a certain quantity of watery extract of cascara sagrada. Another combination from which good results have been obtained and whose use rests upon similar principles is one of liquid paraffin with cascara, and this is often a useful adjuvant to the agar-agar compound. It is necessary, however, as these substances are not given as purgatives, to continue their use for long periods of time, and the usual treatment by massage, exercise, etc., is not to be neglected. Schmidt (*Münchener medicinische Wochenschrift*, October 10, 1905; *Medical Record*, October 28, 1905).

CORYZA IN INFANTS, TREATMENT OF.

Attention is called by the writer to the fact that coryza paves the way for otitis, gastrointestinal disturbances, pneumonia and cerebrospinal meningitis, and the importance of treating it to ward off these secondary affections is

emphasized. The author relieves coryza in adults by reducing pain and swelling with a solution of suprarenal extract, cocaine and water, applied on a cotton-wound wire. As infants are unable to blow their nose, this measure does not help them. He accomplishes the desired purpose with what he calls the air nose douche. A rubber tube about 25 centimeters long, with the nose end cut slanting, is inserted in one nostril and air is blown into the nostril under moderate pressure from a rubber bulb or the mouth. Infants and small children usually resist and scream when the tube is being inserted, and this closes the entrance into the air passage below, so that the air blown in pours out at once through the other nostril. The air douche is always given on the side that is closed the most. It is repeated before the child is fed; the secretions escape with the air and are thus blown out through the other nostril. The same procedure will be found a great help for older children when there is difficulty in blowing the nose. In one instance the author was thus able to release and to evacuate in the most gentle manner a complete fibrinous cast of the nose and nasopharyngeal space in a case of diphtheria in a child of two. The air douche is also useful for diagnosing adenoid vegetations. Nothing has ever been noticed suggesting danger for the middle ear from the air douche. Others have advocated aspiration of the contents of the nose, but this is liable to increase the hyperæmia without insuring as radical cleansing as the above technique. The nasal air douche has never failed to relieve the obstructed condition of the nose in young children when the latter is due merely to an acute infection. K. Vohsen (*Berliner klinische Wochenschrift*, October 2, 1905;

Journal American Medical Association, December 16, 1905).

DIABETIC COMA, ALKALINE TREATMENT IN.

In a search through literature, the author finds but few instances of recovery from diabetic coma under any treatment, and these are not free from possible error as to the diagnosis, as they include all grades, from a slight drowsiness to complete loss of consciousness. These recoveries, however, show that we are not helpless in its presence. As alkalis are purely symptomatic remedies, they can be of use only before changes in the tissues have occurred, which prevents their recovering their normal functions. Acting as a chemic antidote, it is necessary that the dose should be sufficient to neutralize the offending acids, and the greater success which has been obtained in children is probably largely due to the greater relative amount which can be given. Results obtained from small quantities must be due to a neutralization of the excess of acid, allowing the organism to resume once more its oxidizing processes. The method of administration is less important than the amount. G. G. Sears (Boston Medical and Surgical Journal, November 30, 1905).

DIGESTIBILITY OF EVAPORATED CREAM

The author's investigations regarding the digestibility of evaporated cream lead to the following conclusions: The protein in evaporated cream digests a little more rapidly when treated with artificial juice than does that of raw, Pasteurized or boiled milk. The protein in evaporated cream is almost entirely soluble in artificial gastric juice. Its total digestibility by this method compares very favorably with that of

raw, Pasteurized and boiled milk. The small difference found was in favor of the evaporated cream. By means of natural digestion experiments with a child and with a man, the child was found to digest evaporated cream a little more completely than did the man. It was found that in the case of the child that only 3.31 per cent. and in the case of the man only 6.81 per cent. of the entire solid matter of the food remained undigested. The total digestibility of the protein in evaporated cream, after making correction for the metabolic products in the feces, in the case of the child was found to be 98.48 per cent., or very nearly what was found by means of artificial gastric juice, namely, 98.89 per cent. With the man it was found to be 93.10 per cent. The butter fat and milk sugar were both very completely digested and assimilated by both subjects. The child digested 98.80 per cent. of the fat and 97.78 per cent. of the sugar. The man digested 95.84 per cent. of the fat and 96.85 per cent. of the sugar. The child digested nearly 18 per cent. more of the mineral matter than did the man. This accords with the accepted theory that a child requires more mineral matter in proportion to its body weight than does an adult because its bones are growing and developing. The total energy or fuel value of evaporated cream is almost entirely available to the body. The child used 97.25 per cent. and the man 94.59 per cent. of the total energy contained in the evaporated cream which they used.

The health of both subjects was normal during the experiments. The child gained in weight, an average of about one pound a week and relished its diet. The man lost in body weight, but gained in protein to the amount of nearly one-third ounce of protein a day. Evapo-

rated cream, like other forms of pure milk, is an economical article of diet because its nutrients are practically all available to the needs of the body. T. Mojonnier (Medical News, November 4, 1905).

DYSENTERY, TREATMENT OF.

The value of intestinal irrigation over internal medication in the treatment of dysentery is urged by the writer. He uses a hot boric-acid solution, containing one dram of boric acid with a pinch of sodium carbonate to one ounce of water, massaging the abdomen gently during the irrigation. Internally he uses the bark of *Holarrhena antidysenterica*, a small bushy plant, very common in southern India, whose native name is pandarakorda. The bark of the root only is used. It is macerated in sour whey, one wineglassful of the solution being taken four times a day. This solution is pleasant to the taste and is carminative and diuretic. This drug is far superior to ipecac and acts well in what the writer terms the "white" variety of dysentery. It also has marked febrifuge properties and produces diaphoresis. The author states that ipecac is of value in the treatment of the "red" variety of dysentery, but that some nervous individuals cannot take it. Castor oil invariably cures mild cases, especially in children. It flushes out the intestine and removes irritating matter, while it is astringent in its after effects. In plethoric patients he finds the following saline solution useful:

R' Sodii sulph.,
Magnesii sulph., of each, ʒj.
Sodii chlor., gr. x.
Aq. chloroformi, ʒj.

The writer does not approve of giving bismuth or opium till after the intestinal tract has been cleansed of all irritating

substances. As a diet he favors pure milk, to which a little salt is added. He does not favor soups or albumin water. V. G. Desai (Journal of Tropical Medicine, November 15, 1905; Journal of the American Medical Association, December 30, 1905).

ECLAMPSIA, RELATION OF THE KIDNEYS TO.

From 54,010 records of births gathered from statistics and personal observation, the writer thinks that albumin is present in fully 80 per cent. of normal pregnancies. Albumin and casts are found in at least 30 per cent. of all pregnancies. There is no reason to suppose that the renal condition thus revealed is the cause of eclampsia. That there is some connection, however, between the albuminuria and the extrarenal cause of the eclampsia is likely, in view of the nearly constant association of the two. It has been shown that neither any normal end product nor any known intermediary product of metabolism is the cause of eclampsia. It is reasonable to suppose that deficient thyroid or parathyroid activity plays a part, at least, in some of the cases of eclampsia. There are probably several casual factors to the separate or concomitant action to which eclampsia seems to be due. The most significant experimental work done up to this time points to the fact that in the placenta are formed the toxic substances which probably are responsible for eclampsia. There is good evidence that these same substances are, in all probability, the causes of the headache, oedema, abdominal pain, and particularly the albuminuria present in non-eclamptic and non-nephritic cases. The muscles of pregnant guinea pigs can be thrown into convulsion more easily than those of non-pregnant animals. P. K. Brown

(Journal American Medical Association, January 13, 1906).

**ENDOCERVICITIS, CHRONIC: A NEW
METHOD OF TREATMENT WITH
NEW INSTRUMENTS.**

After showing the justifiability of treating chronic endocervicitis as an entity, the author proceeds to outline original ideas in reference to diagnosis, prognosis and treatment.

The diagnosis is made to depend upon the condition of contraction or relaxation of the internal os. If with an ordinary Simpson or Sims uterine sound distinct resistance is encountered at the internal os, in the absence of flexions, the inflammation is confined to the tissues external to the internal os; if on the other hand the internal os is distinguished with difficulty or not at all because of its relaxation and wide calibre, the inflammation is above the internal os, which is thus widely dilated to favor free drainage and to guard against back-pressure. Treatment by the writer's method should be strictly confined to those cases in which the internal os is distinctly contracted.

The author's treatment, or operation, consists in curetting the cervical canal up to, but not beyond the internal os with a specially designed curette after dilatation of the external os with a conical dilator, also specially designed for this purpose. The operation is quickly and easily performed at the gynaecologist's office without the use of anaesthesia, except occasionally a few crystals of cocaine at the external os, and without confinement to bed. The pain, when done without cocaine, is about the same as that due to the filling of teeth.

Inasmuch as the most rigid asepsis is requisite to render such ambulatory treatment safe, this little operation is

not offered for the use of those not thoroughly familiar with surgical and gynaecological manipulations, but for those who are able to establish and maintain a rigid asepsis. The preparatory and after treatment consists of three, 1-5,000, formalin douches daily for three days before and for ten days after the operation, with avoidance of unusual exertion and abstinence from sexual relations.

The cure is prompt and complete, only a relatively few very severe cases having required more than the original curettement. Tubo-ovaritis or other concomitant disease which might be aggravated or lead to a recurrence constitute a contraindication to this treatment except as an immediate preliminary to radical operation. The treatment is not intended as a substitute for tracheloplasty nor for uterine curettement in cases in which the disease has invaded the corporeal endometrium. The use of this method should not be attempted until the original paper has been read in detail. D. H. Craig (New York Medical Journal, January 6, 1906).

**ENTEROSPASM, THE REALITY OF, AND
ITS MIMICRY OF APPENDICITIS.**

It is not uncommon for men and women in equal proportions to begin in early adult life to suffer from abdominal pain. From the absence of all evidence of organic disease and the long duration of many of the cases, it is unlikely that there is any structural change in the intestine or elsewhere. Such patients are neurotic or neurasthenic, and the abdominal trouble varies directly with the mental state. The pain may occur in short, sharp attacks; or may last for months at a time as an ache or discomfort. Whether it is short and sharp, or long and wearing, the pain is usually seated in the right or left iliac fossa or

the immediate neighborhood. In both situations the pain may lead to the idea that more serious disease is present, as affecting chiefly the appendix, and to a less extent the sigmoid flexure.

Dealing only with this spasm-pain when it occurs on the right side and its distinction from appendicitis, there is little concern with a real attack of local appendicular peritonitis with fever. The distinction here is easily made. Doubt only arises when the patient presents himself for an opinion as to the advisability of ridding himself of his appendix, and in coming to a decision, his own story has to be relied on entirely, no verified details of the attack being available.

The chief difficulty lies in distinguishing between the spastic pain and those attacks of pain, or uneasy sensations in the right iliac fossa which undoubtedly occur in connection with a diseased appendix, before ever the peritoneum has become affected. Even in these cases a few words from a doctor who has observed an attack and knows its character are worth more than an hour's talk with the patient. It is in these cases that the appendix is sometimes removed, and thereafter the symptoms have been found to continue unaltered. It would be a gain if only it were generally allowed that not all pain in the right side is due to disease of the appendix, but may have such a comparatively harmless nature as is here suggested. That position being reached, the writer believes a correct diagnosis would be arrived at more uniformly than is now the case if the past history, as well as the story of a recent attack were minutely investigated. The true nature might be realized from such points as the long duration of the pain or discomfort, the circumstances of its coming and going, the complete absence

of fever, a similar trouble on the left side at some earlier date, the observation of mucus passing, and the tangible evidence of colon spasm.

Though excision of the appendix is sometimes performed unnecessarily, as is shown by the subsequent recurrence of pain, it does not follow that in all such cases the wrong course has been pursued. One may feel fairly confident that a right-sided pain is of spastic origin and not due to disease, yet it may be wise to remove the appendix. All the circumstances must be considered. If the patient is so placed as to be able to lead a healthy life under observation, it may be perfectly safe to wait. Further observation will certainly make the case clear, though passive waiting while a doctor makes up his mind, is seldom appreciated by the patient. If, on the other hand, he lives out of the reach of reasonably skilled attention, it may be wiser to be on the safe side and remove the appendix. The work and occupation of the patient must likewise be considered. Also, there is no disguising the fact that patients exist whose intelligence is of such an order that if suspicion has once been cast upon the state of their appendix they will not rest satisfied until it is excised. Finally, in cases in which the pain is probably of the functional kind, and yet the possibility of appendix disease cannot be excluded, it is certainly helpful to the physician if the appendix has already been removed. In carrying out his course of treatment he can then act more freely than if a doubtful appendix were still present. H. P. Hawkins (*British Medical Journal* January 13, 1906).

GRAVES'S DISEASE.

The writer thinks it probable that the parathyroids play an important part in

the pathology of Graves's disease, and that their atrophy may be the cause of some of the more serious symptoms. In speaking of the presence of the thymus in fatal cases of this disease, he states that perhaps every case of persistent thymus is one of potential Graves's disease. Although there are no obvious naked-eye changes in the nervous system, certain microscopic lesions have been found after death in some cases. The writer believes that it is most probable that the hypertrophy and over-activity of the thyroid is the cause of the symptoms of the disease and of most of the changes in the organs of the body. It is not known what it is that starts the hypertrophy of the thyroid. The disease is more common in the female than in the male. It may occur at any age, but it is rare in children or over the age of fifty. The four cardinal symptoms are well known to all—goiter, palpitation, exophthalmos, and tremor. Progressive emaciation may well cause anxiety, and with it goes loss of strength. Slight degrees of pyrexia are not uncommon. Oedema is occasionally seen. Looseness of the bowels, alternating sometimes with constipation, is another trouble. Irritability is nearly always present; and even insanity develops in some cases, the type being either melancholia or mania. There are two varieties of the disease, the acute and the chronic. The prognosis should be guarded in all cases, but especially in acute ones.

Time is a most important element in combating the disease. Massage, which is beneficial in certain cases, as in patients who are confined to bed, must be judiciously employed. There is no rule as to the climate that will suit one of these patients. Peaceful rest and quiet are most essential. Wholesome food,

pure and bracing air, and pleasant and cheerful surroundings are indicated. As to the drugs, the writer has found potassium bromide useful. Belladonna also affords relief. In certain cases, treatment with thyroid gland is beneficial, but usually makes the patient worse. On the whole, the risk attending thyroidectomy is too great to justify the adoption of the operation save in exceptional circumstances. Hector MacKenzie (*British Medical Journal*, October 28, 1905).

HÆMOGLOBINURIA, PAROXYSMAL, PATHOLOGY OF.

The author concludes that a pathological substance is found in the serum and lymph of those who have paroxysmal hæmoglobinuria. This substance will dissolve (in vitro) the corpuscles of the patient, and also those of normal individuals under certain conditions of temperature. A temperature below that of the body will favor the action of the hæmolytic substance, while the normal body temperature will retard or prevent it. The author's observations concerning phagocytic activity correspond with those of other investigators in their comparative work on immunity. Excessive phagocytic action is believed to be significant of the antecedent union of intermediary body with the red corpuscles. The intermediary body of paroxysmal hæmoglobinuria requires the presence of a thermolabile substance complement to produce solution of red corpuscles. The changes in the red cells in the course of solution are similar to those produced during hæmolysis by an immune serum. The serum of normal individuals does not cause hæmolysis. J. Eason (*Edinburgh Medical Journal*, January, 1906).

HOARSENESS, CHRONIC, THE FREQUENTLY MALIGN NATURE OF.

The patient with cancer of the larynx must have his disease discovered early, else a cure is well-nigh hopeless. If discovered early the comparatively slight operation of thyrotomy will cure. If discovered late, total or partial laryngectomy will probably prolong life for a variable period, but recurrence is fairly certain and the short extension of existence lacks many pleasures and comforts. The early curable stages of laryngeal cancer are characterized by nothing but hoarseness, which may disappear and recur. Cough, odor, pain, odynphagia, glandular involvement, external swelling, emaciation, cachexia, etc., are present only after the curable stage is passed. The curable case may come in "to get something for a cold that cannot be shaken off," without any idea of a serious condition, and throw the physician off his guard. In conclusion, the writer begs to say that although the surgery of malignant diseases is discouraging, it is, in the larynx, only so when seen late. In early thyrotomized cases the prognosis as to cure is better than it is in chronic laryngitis. The frequently malign nature of chronic hoarseness should be borne in mind. Chevalier Jackson (*Medical News*, December 9, 1905).

INSANITY, PROGNOSIS IN.

There is probably always some mental weakness after an attack of insanity, and there is no such happy issue as a complete and permanent recovery. Tuberculosis is one of the most frequent causes of death in insanity. During 1903, phthisis was responsible for 16.3 per cent. of all deaths in institutions for the insane. Certain types of insanity bear the stamp of incurability from the start. Such are the forms accompan-

ing general paralysis, cerebral tumors, advanced tuberculosis, or malignant disease, diabetes mellitus, or diseases necessarily fatal and attacking the great internal organs (heart, liver, kidneys, etc.), epilepsy, paralysis from hæmorrhage, embolus, or thrombus; also those conditions described as paranoia or chronic delusional insanity, alcoholic insanity with hereditary predisposition, and senile dementia. All these have an absolutely unfavorable prognosis, and the same is true of congenital mental defects of all kinds. General paralysis is peculiarly unyielding to medical treatment, though some forms are more chronic than others. In acute insanity there is one form which is most fatal—acute delirious mania. The condition is rare, and the patients usually die before they reach the asylum stage.

Certain signs in mental disease are favorable to recovery. The first of these is normal sleep; second, a return to the normal mean average bodily weight; third, a return of the natural facial expression and appearance; fourth, the revival of natural affections; fifth, an interest in their own personal appearance; and sixth, the consciousness and recollection of having been ill.

The cause of insanity not infrequently has a direct bearing upon prognosis. The prognosis is better where there is a single cause than where there are several. The appearance of an acute inflammation may cause the recovery of a chronic case. Attacks of long, slow incubation are of unfavorable prognosis. R. Jones (*British Medical Journal*, December 16, 1905).

KIDNEY, THE PATHOLOGY OF THE.

The writer remarks that judging from a careful routine examination of the kidneys in a large number of autopsies,

the most important conclusion is probably the fact that the lesions of the kidneys are only part of a whole. Almost invariably there are lesions in other organs, sometimes of the same general character as the lesions in the kidney, sometimes of a different character. Kidney disease cannot be considered as an entity. The injuries which are produced in the kidneys are either due to agents which are formed in the body as a result of disease in other organs, or they enter the body from without, affecting the kidneys secondarily. Even the slightest lesions due to the direct action of bacteria are secondary to infections elsewhere. The frequency of lesions, especially when the examination is by the microscope as well as by the naked eye, is striking. Anatomically it is not uncommon to find casts in a few tubules connected with foci of injury, the remainder of the tissue being perfectly normal. Comparing clinical reports of routine urine examinations with the results of routine necropsies, it often appears that too much importance may be attached to the presence of albumin and casts, though they always mean injury of the organ. Too much importance cannot be attached to the result of urinary examination directed to the ascertaining of kidney insufficiency. W. T. Councilman (Journal American Medical Association, January 13, 1906).

MORPHINISM, PSYCHOSIS OF.

The psychosis or psychical symptoms common to morphinism are, first, palsy of the consciousness of right and wrong and inability and indisposition to discriminate the ethical principles or responsibility and obligation; second, a delirious stage of profuse explanation and efforts to conceal and explain the reasons for his acts and conducts; third, a

special exaltation or depression of the language centers, with a change in the manner of expression and the use of words; fourth, a veritable insanity to deceive, to misrepresent and to take advantage of the credulity of others, not for any purpose of gain, but for the satisfaction of being able to defraud and mislead, also to act in different characters and to elude the efforts of persons who would discover the condition. T. D. Crothers (Journal American Medical Association, December 23, 1905).

MUSCULAR RHEUMATISM, ACTIVE TREATMENT OF.

The necessity in muscular rheumatism of quickening the circulation, opening up freely all the excretory channels, and eliminating all waste material is emphasized by the writer. Nearly all patients with muscular rheumatism have torpid livers, heavily-coated, furred tongues, offensive breaths, constipation, and frequently headaches; in other words, they often show the classic signs of a condition termed "biliousness." Moreover, chronic rheumatics are often heavy eaters. They eat fast, chew their food improperly, are sluggish in thought and action, and complain much of indigestion. Treatment calls for proper muscular exercise, preferable on rising, cold tubbing, and brisk rubbing. Sufficient time must be spent in masticating the food, and the first step to insure this is to see that the teeth are in good condition. Special directions are given by the author as to exercise. He declares that a rigid adherence to the rules he lays down will not only cure the most obstinate case of muscular rheumatism, but will develop the muscles, bring back the bright eye, banish indigestion and constipation, give elasticity to the step, and soon the patient unless he has his

daily exercise and cold plunge, will feel uneasy all day long. B. B. Cates (Boston Medical and Surgical Journal, November 2, 1905).

NEPHRITIS, ELIMINATION OF CHLORIDS IN.

In patients with moderately severe nephritis associated with oedema, the ingestion of large amounts of sodium chlorid is followed by a chlorid retention. The patient gains in weight, the oedema becomes more marked, the albuminuria increases and symptoms may develop resembling uræmia.

In patients with severe nephritis, and and especially those with uræmia, chlorid retention is very marked, as scarcely any of the extra chlorids administered are eliminated.

In individuals with apparently healthy kidneys, following the ingestion of sodium chloride there is a chloride retention equal to that of mild nephritis. The individual gains in weight, but there is no visible oedema, no albuminuria and no uræmic symptoms appear. J. L. Miller (Journal American Medical Association, December 23, 1905).

NEURASTHENIC STATES CAUSED BY EXCESSIVE LIGHT.

An excess of light may be injurious owing to the underlying law that the effect of the short waves is always destructive and never constructive. The various races have been provided by nature with a degree of cutaneous pigmentation suitable for the average intensity of light in the region in which they are native. The blond, fair-skinned races are indigenous in the comparatively dark, gloomy, northern countries, whereas the inhabitants of tropical and subtropical latitudes are universally brunettes. This principle is so radical that

the blonds, in the course of time, tend to become extinct if they migrate to more sunshiny regions. The writer states that the excess of sunlight to which the people of many parts of this country are exposed is distinctly injurious and is a potent cause of neurasthenia. He states that, as a matter of fact, neurasthenia is commoner in blonds than brunettes, is worse in cities than in the country, and is vastly benefitted or cured by removal to dark, cloudy climates. The same element is of importance in the treatment of tuberculosis, and excellent results in treating the disease in the country and in Europe are obtained in sanatoria where there is a minimum of sunshine. The writer suggests that a uniform system of recording complexions be adopted, for the purpose of gathering statistics, and he has devised a numerical scheme of notation, by using which it will be possible to secure uniformity in the records. C. E. Woodruff (Medical Record, December 23, 1905).

PELVIC SUPPURATION, TREATMENT OF.

In all cases in which it is evident from the symptoms and physical signs that pus exists in the pelvis, the treatment should be operative. When the patient is desperately ill, the operation should take place without a moment's delay. When it appears probable, after a careful examination and weighing of all the factors in the case, that the patient, although seriously ill, is likely to improve with rest and supporting measures, the operation may be postponed until the symptoms have subsided and the temperature becomes normal. The opening of the abdominal cavity should always be preceded by curettage at the same sitting.

The abdominal cavity should always

be opened first through the posterior vaginal fornix. If serious constitutional symptoms are present at the time of operation, and if pus can be evacuated from the pouch of Douglas, or from pus sacs within reach of the finger, and if bimanual examination discloses no other collection which might be responsible for such constitutional symptoms, the pelvis should be thoroughly cleansed, powdered with iodoform, and the pus sacs lightly packed with gauze. In a week the patient's condition will usually be so much improved as to allow of abdominal section in the middle line and the removal of the pus sacs.

If, on the other hand, there are no constitutional symptoms, or these are but slight, or if, again, it be impossible to reach and evacuate the pus from the presence of which constitutional symptoms have arisen, then the final step of median abdominal section should be undertaken at the same sitting, and the pus sacs completely removed.

If the uterus appears to be involved in the septic process, it also should be removed. The same rule applies to the appendix vermiformis. Flushing should not be practiced unless there is general purulent peritonitis. The pelvis should be carefully cleared by gauze swabs and lightly powdered with iodoform. Every case should be drained by a single strip of gauze two inches wide carried from the pelvis into the vagina. Ralph Worrall (*British Gynaecological Journal*, November, 1905).

PNEUMONIA, CLINICAL ASPECTS OF.

While pneumonia is usually classified as being either lobar or catarrhal, and while in ninety-nine cases out of one hundred the two forms are sharply separated, yet, the author states, bacteriological research has almost conclusively

proved that the pneumococcus may be the essential cause of both conditions. Under pneumonia should also be included another class of cases, less frequent than either of the two already mentioned, which may be termed "pneumonic fever"—a form of rapid and disastrous infection, not only of the pulmonary area, but of other parts of the body, such as the endocardium, pericardium, and joints. The primary anatomical position of the commencing pneumonia may profoundly influence the symptoms. Thus in pneumonia of the apex, especially in children, constitutional disturbances are apt to arise which are misleading, the symptoms being of a cerebral type—headache, intolerance of light, extreme delirium, and restlessness. Pneumonia of the base may closely simulate functional mischief of the liver or stomach. The initial symptom of an attack of pneumonia may be pain, often very severe, referred to some part of the abdomen. Such pain may be difficult to distinguish from the pain at the commencement of appendicitis. Excessive irritability of the stomach with a high temperature should always draw attention to the chest. The principal symptom, to which the utmost care should be given, is the rate of respiration. In all chest cases this is much increased. But the physical signs denoting implication of the contents of the chest may take some hours, not infrequently some days, to develop sufficiently to warrant an exact diagnosis.

The extraordinary variation in the toxic influence—degrees of virulence of an infecting organism—is seen at its best in influenza, the bacillus of which is an agent which profoundly modifies all conditions of pneumonia, lobar or catarrhal, which has been caused by pneumococcus. The two organisms appear

to work together in perfect harmony. In differentiating cases of pneumonia, due to, or modified by, the influenza bacillus, from a pure lobar pneumonia due to the pneumococcus, the writer attaches great importance to an irregular fluctuating temperature. In ordinary lobar pneumonia the one constant symptom is a high, fairly level range of temperature sustained up to the moment of crisis. The mortality of lobar pneumonia is not high; when complicated with influenza, however, it may be very fatal.

A certain amount of bronchitis is usually superadded to the original pneumonic process. The length of the illness preceding the crisis or sudden cessation of temperature, whether measured by hours or days, is directly referable or proportioned to the amount of the inflammatory lesion. Post-pneumonic empyema is one of the commonest causes of absence of crisis. The cough attending these residual effusions is peculiar, and is a valuable auxiliary symptom towards the diagnosis of fluid. It is essentially paroxysmal, commencing after movement, and is not usually followed by expectoration. The fluid may be very small in amount, and yet on its being withdrawn, the cough will cease. Occasionally pneumonia may terminate by crisis and be followed by effusion, but without any subsequent rise of temperature; but the contrary is much more usual. D. W. C. Hood (*Lancet*, December 30, 1905).

PNEUMONIA, DEGENERATIONS OF THE HEART AND KIDNEYS IN.

Degenerations of the heart and kidneys are often observed at the post-mortems of pneumonia patients. At such autopsies at the Philadelphia Hospital the author has found that there was a large proportion of interstitial nephritis.

As to the importance of absolute rest, he believes that there is no other disease in which this is so essential to the welfare of the patient, and he does not allow his own patients even to turn in bed without the assistance of an attendant. Pneumonia is a toxæmia, and it should be dealt with as with other toxæmias. Elimination should always be striven for through the kidneys, the bowels, and the skin. The kidneys are the great eliminating channel, and water, given freely in the intervals between the times of feeding, is a useful diuretic. The author is also in the habit of employing tepid sponging, not for the purpose of reducing temperature, but to promote elimination through the skin. J. M. Anders (*Proceedings of the Medical Association of the Greater City of New York; New York Medical Journal* December 30, 1905).

PNEUMONIA, PULMONARY CIRCULATION IN.

The local conditions in the developed disease are such that gangrene would be inevitable were it not that the nutrition of the lung was maintained by a circulation distinct from that by which its function was carried on. While the capillaries derived from the pulmonary arteries are completely occluded for many days in the affected part, the bronchial arteries are scarcely implicated, and the nutrition remains intact. So, too, the difference between the columnar epithelium of the tubes and the pavement epithelium of the air cells, in relation to the growth of the pneumococcus, is a factor of transcendent importance as regards pneumonia, since this makes it clear how it is possible to have pneumococci ever present potentially, and yet continue to escape it actually. As to what constitutes pneumonia, the

author contends that a single pneumococcus lodged in an air cell, and causing there its specific irritation, presents all the essentials of the disease. It matters not if ten minutes later the organism is swept away by the exudate; the patient will have had a pneumonia. Or, if later the bronchiole terminating in the lobule first invaded becomes blocked, and the further spread of the infection is prevented, the patient may escape with a unilobular pneumonia; but he will have had a pneumonia all the same. Indeed, there is reason to suspect that such abortive attacks are very common. The author asks what then becomes of the notion that the disease is at first general, becoming localized afterward? A. H. Smith (Proceedings of the Medical Association of the Greater City of New York; New York Medical Journal, December 30, 1905).

PNEUMONIA, ROLE OF SALINE SOLUTIONS IN THE TREATMENT OF.

The author presented a resumé of the facts relating to the disposition of the normal salts of the blood plasma and its contained auto-protective potentialities, a recognition and use of which were capable of furnishing a beneficial agency in overcoming infectious processes. Certain observers have called attention to the value of saline solution designed to supply the enormous loss in these essential constituents of the plasma which occurs during febrile states. They, however, have recommended the use of the measure only late in the disorder and in desperate cases. The author urges the importance of following the advice of Sajous, to employ them as soon as the character of the disease is recognized, in order to insure the full efficiency of the blood's antibodies, *i.e.*, the

body's auto-protective powers. Saline solutions, used early, preserve the blood's normal fluidity, render normal osmosis possible, and give free sway to the immunizing process. The author contends that to delay using salines is just as dangerous as to delay the administration of antitoxine in diphtheria, and, moreover, in infections the blood suffers such rapid depletion of saline elements (the effect of which is to impair the efficiency and finally arrest the protective functions of the organism) that this constitutes one of the most active causes of death.

The author's practical recommendation is to begin at the outset, in pneumonia and other infectious fevers, with the internal use of saline solutions, which should contain sodium chloride and other saline constituents of the blood. The use of these salines by hypodermoclysis or enteroclysis has recently been shown by a number of observers, acting upon Sajous's recommendation, to be of great efficacy when begun early. The employment of the saline drink has been shown by Todd and by the author to be of equal efficiency and not at all inconvenient or disagreeable. J. M. Taylor (Proceedings of the Medical Association of the Greater City of New York; New York Medical Journal, December 30, 1905).

PUERPERAL INFECTIONS, TREATMENT OF.

Practically the battle against puerperal infection is won by an adequate system of asepsis and antisepsis. True autoinfections very rarely arise and usually are not of serious potent. It is no more possible to operate aseptically without skilled assistants in obstetrics than in general surgery; to properly

conduct an operative case requires a full quota of assistants.

Puerperal infection is not a specific disease. Diverse types of micro-organisms may be the etiological factors, and any part of the parturient canal may be the seat of the infection. To treat locally a thermal condition of the puerperium without a clear, positive knowledge of the seat of infection should be characterized as an obstetric crime.

At the present time there is *absolutely* no method of adequately reaching the offending germs in the uterine submucosa or muscularis. The curette cannot discern the locality of the retained remnants of secundines; the finger alone can ascertain this; a placental forceps more easily, more certainly, and with infinitely greater safety, can remove them, under guidance of the finger. It is a grave error to neglect digital revision of the uterus after any instrumentation for the purpose of cleaning the uterine cavity.

Nature, by supplying the reaction zone of Bumm, offers the surest safeguard to the woman; puerperal infections demand the same rest for the uterus as inflamed parts elsewhere require rest. The danger of shreds in the uterus is greatly overestimated as regards their rôle in infections. Active operative measures endanger the life of the woman doubly or trebly to the extent the expectant plan does. The use of saline purges, administration of ergot, hydrastis, etc., removes much of the danger or necessity for active therapy; in a day or two the danger is often past, for, like a baby, the lying-in woman is subject to evanescent febrile elevations. R. W. Holmes (New York Medical Journal and Philadelphia Medical Journal, December 9, 1905).

RHEUMATISM, NERVOUS MANIFESTATIONS OF.

There is a great infective process, the rheumatic, to be placed among that series of infective processes where the staphylococcus, streptococcus, pneumococcus, and gonococcus are to be found, the infective agent being a diplococcus with, in all probability, some peculiar characteristics. Eventually rheumatic chorea will prove to be a local infection of the nervous system and most of its symptoms to be the result of a slight meningo-encephalitis and possibly meningomyelitis. The authors' reasons for this belief are that they have isolated and cultivated the diplococcus from the spinal fluid in four cases of fatal rheumatism, in three of which there was chorea at the time of death. They have produced twitching movements, arthritis, endocarditis, and pericarditis by intravenous injections of the diplococcus into rabbits. They have demonstrated them in the brain and pia mater of the rabbit that had shown the twitching movements. In rheumatic hyperpyrexia no gross macroscopical lesion is found; it is probably an acute rheumatic toxæmia in contrast to the multiple and slight local lesions which exist in chorea. F. J. Poynton and A. Paine (Lancet, December 16, 1905).

SALICYLATE OF IRON, USES OF.

This salt has been found by the writer to act as a powerful febrifuge without producing diaphoresis. In fifty cases of erysipelas the first or second local application was followed by a fall in temperature and cure in about thirty-six hours. The mixture employed consisted of one drachm of soda salicylate dissolved in two ounces of water. To this was added two drachms of tincture of potash, half an ounce of glycerin, and water to

make eight ounces. Of this mixture two tablespoonfuls were given every three or four hours. In two hundred and fifty cases of tonsillitis similar rapid results were obtained. Iodine in weak solution was gargled, while the tincture was applied externally, in addition to the use of the salicylate. It was also effective in croupous pneumonia, in puerperal sepsis, and in various other inflammatory conditions. F. J. Gray (*Edinburgh Medical Journal*, November, 1905).

SCROFULA, ARSENIC IODID IN THE TREATMENT OF.

Two hundred children have been treated by the writer during the last decade with arsenic iodid and he has found it very valuable in scrofula and scrofulo-tuberculosis. The hypertrophied glandular apparatus is in a condition of functional hyperactivity while at the same time there are signs of nutritional disturbances. The iodo-arsenical medication meets both these indications. He orders from 10 to 40 drops of a one per cent. solution of arsenic iodid, morning and evening. R. Saint-Philippe (*Bulletin de l'Académie de Médecine*, Paris, Year lxxix., No. 39; *Journal of the American Medical Association*, January 13, 1906).

SMALL-POX, ICHTHYOL IN.

The writer describes the results obtained in the treatment of small-pox by ichthyol. The ichthyol was given in doses of 40 grains, administered in the form of chocolate-coated tabloids, three times in the twenty-four hours. In a certain proportion of cases ichthyol was also applied externally in the form of an ointment. The action of the drug was observed in 100 patients, of whom 67 were males and 33 were females, their

ages ranging between 3 and 60 years. The treatment was commenced as soon as the patient was admitted to the ward, and was continued until he was sufficiently convalescent to leave his bed. Of the total cases treated 6 patients (or 6 per cent.) died, but the cases were not selected in any way with regard to severity, although it is probable that the action of the drug would have been better estimated in cases of considerable severity than in those of a milder character. In 30 out of the total number of cases the eruption was sparse; in 63 it was abundant, and in 5 it was confluent, while in 2 it was hæmorrhagic in character. With regard to vaccination, 4 patients were unvaccinated, but in two of these vaccination had been attempted unsuccessfully in infancy.

In none of the cases observed was there any indication that the drug influenced the disease as regards either its course or severity. That pustulation was not affected in any way is shown by the fact that nearly all the cases ran a full course, and by the incidence of abscesses in some during convalescence. The course of the eruption, as well as the complications and sequelæ, were precisely those seen among small-pox patients who had not been subjected to any special treatment. The two patients in whom the eruption aborted were persons who had been well vaccinated in infancy, a considerable degree of immunity being thus indicated, and whose eruption at the time of admission was of a small, dry character usually associated with a modified development of the rash.

In a certain proportion of the cases ichthyol was applied externally in addition to the internal administration. The upper limbs were usually chosen for this purpose, because of their accessi-

bility, and the ichthyol was applied by wrapping the arm in lint which had been thickly smeared with the preparation. The effects of this external application were as disappointing as those resulting from internal administration; indeed, in most cases the stages of maturation and crusting were delayed on the limb treated, the pustules remaining soft and crusts forming tardily. A. Love (Glasgow Medical Journal, November, 1905).

SNAKEBITE, PERMANGANATE OF POTASH FOR.

Twelve cases of snakebite were treated by the writer with potassium permanganate, according to the method proposed by Lauder Brunton. In four cases the treatment was commenced at once; in three cases a full half-hour elapsed before it was commenced, but in two of these a ligature had been applied shortly after the infliction of the bite. In three other cases three-quarters of an hour, one hour and four hours respectively elapsed before treatment was begun, but it still proved successful in saving the life of the patient. Only two of the twelve patients died. In the majority of cases the snake inflicting the wound was a cobra. The two patients who died did not come for treatment until nine and eleven hours respectively after having been bitten. L. Rogers (Indian Medical Gazette, October, 1905).

STERILIZING SPONGES: METHOD.

A solution of persulphate of ammonium is used by the author for sterilizing sea sponges used in surgery. The exact mixture advocated is made up as follows: Thirty-seven grams of ammonium persulphate are dissolved in 950 cubic centimeters of pure distilled water and 11 cubic centimeters of strong hydro-

chloric acid are then added. When first made up the mixture has no very extraordinary germicidal powers, but in the course of a few days these become very pronounced, and when six days old the mixture will kill anthrax spores in less than one minute. It retains its efficiency for many weeks. It is a perfectly clear, colorless solution, with no staining powers and no injurious action on the skin, though it may fix blood stains in the crevices of the nails. Some of the methods in common use for the preparation of sponges for surgical purposes occupy several days. By this method they can be sterilized with certainty in an hour, whereby considerable economy in the stock of sponges required can be effected. Moreover, discolored sponges can be bleached and renovated. For this latter purpose a sojourn of two or three days in the mixture is requisite. For mere sterilization an hour is ample; the sponges should then be rinsed in sterile water and stored in carbolic solution. This is advisable because the persulphate does exercise a certain injurious effect on their texture. The author found that if they are kept soaking in the mixture for three or four weeks they become softened and eventually disintegrate; hence, the shorter the sojourn at each sterilization the longer will be the life of the sponge. Two facts are emphasized by the writer in connection with this method. First, the persulphate mixture should have been made up at least four days before use, but preferably not more than a month. Second, the method does not do away with the necessity for preliminary mechanical cleansing of the most thorough kind to get rid of all fibrin and other organic matter in the interstices of the sponge. The expense of the method is slight. F. W. Andrewes (Lancet, October 14, 1905).

TABES, DIAGNOSIS OF.

The details of eighteen cases of tabes are tabulated by the writer to sustain his assertions that the Argyll-Robertson symptom is not constant nor pathognomonic of tabes. It is most constant in the patients with unmistakable syphilitic antecedents. An acute onset of tabes generally is announced by acute paraplegia, which may subside later, to be substituted by simple ataxia. The initial paraplegia may be simulated by astasia-abasia in patients with a tendency to hysteria. In such there is probably an ascending neuritis. The peripheral sensory neuron is in a state of irritation similar to that induced by intoxication with strychnin. This "strychnism," as the writer calls it, is responsible for the zones of hyperalgesia, for the exaggeration of the tendon reflexes, and for the tendency to tetaniform and epileptiform contractions from repeated stimulation in the zones of hyperalgesia. These phenomena should not be confounded with spastic phenomena which are induced by lesions of the central motor tracts. The latter are associated with paresis or paralysis and with Babinski's sign, and are due to the abolition of the inhibiting action of the cortex on the spinal reflexes. The phenomena of "strychnism" are characterized, further, by the fact that they are comparatively transient and are never complicated with permanent paralyses. Knowledge of these symptoms reduces the importance of Westphal's sign. There is no single symptom that can be regarded as constant and pathognomonic of tabes. Even the lighting pains may be substituted by mild paresthesia. Tabes should be regarded as a segmented sensory neuropathy, with symptoms due to lesions of the afferent neurospinal system, associated with the

Argyll-Robertson symptom and sometimes with crises. G. Fratini (*Gazzetta degli Ospedali*, Vol. xxvi., No. 130; *Journal American Medical Association*, December 30, 1905).

TACHYCARDIA, ESSENTIAL AND PAROXYSMAL.

Tachycardia may be classed under essential and paroxysmal, and this classification may be subdivided into true and false. The true tachycardia, according to the author, finds its best illustration in permanent disease of the cardiac musculature; the false may be produced by causes far removed from the heart. There are certain definite peculiarities which distinguish true tachycardia from the evanescent "heart hurry" so frequently produced by the most trivial causes: The attack is sudden in its onset, reaching its height almost immediately; the patient may or may not be entirely unconscious of the great degree of palpitation; there is generally a definite period covered by the attack; the reversion to the normal condition is as sudden as the onset, the vestiges of the storm through which the patient has passed rapidly disappearing.

The treatment of tachycardia is that of the condition from which it arises, or with which it is associated; but essential tachycardia is not accompanied by indigestion; paroxysmal tachycardia and the forms of tachycardia accompanied by signs, no matter how slight, of Basedow's disease are very frequently associated with dyspepsia; extreme cardiac arrhythmia frequently occurs without any indication of stomach disease, and tachycardia in its various grades is, however, often but a symptom, a prominent expression of a neuropathic state, which requires to be approached for treatment

from many sides. J. J. Morrissey (Medical Record, December 2, 1905).

THYMUS GLAND.

The thymus gland retains its relative weight until the period of puberty and then begins to degenerate. Experiments with rabbits were made by the writer to test the effects of thymus extracts upon blood pressure. He found that an alcoholic extract from human glands caused an immediate slight depressor effect upon blood pressure with irregularity of respiration, and of the heart. An alcoholic extract of lamb's thymus caused a primary slight rise followed by a more prolonged and pronounced fall in the blood pressure. A saline extract of human glands, precipitated by alcohol, had a slight depressor effect, with temporary cessation of respiration, also increased force and irregularity of the heart action. A similar extract of lamb's thymus caused only temporary cessation of respiration and had no effect upon blood pressure.

A study of the literature of extirpation of the thymus showed that the gland exerts an influence upon nutrition and upon hæmopoiesis, this conclusion being supported by pathology. Experimental use of thymotoxic sera showed that the importance of the hæmopoietic and other functions of the gland in extra-uterine life was not very great. Of the many pathological changes to which the gland is subject two are noteworthy, (1) its atrophy is constantly found associated with marasmic conditions in children, (2) great hypertrophy of the gland is found in Hodgkin's disease, leucæmia, Grave's disease, acromegaly, thymic asthma, and myasthenia gravis. T. G. Moorhead (Practitioner, December, 1905).

TONSILLITIS, FOLLICULAR: TREATMENT.

After considering the symptoms and course of follicular tonsillitis, the author discusses the numerous forms of treatment hitherto in general use. He believes that all of them completely fail both in limiting the extension of the disease and in diminishing the sufferings of the patient. Any improvement which follows their use he ascribes to the natural, though not invariable, tendency of the disease to spontaneous cure. As an alternative, he proposes a remedy which has been occasionally mentioned by other writers, but hardly ever with the complete confidence to which its superiority to all other forms of treatment entitles it. This treatment consists in the systematic painting of the tonsil with a 1 in 1000 solution of perchloride of mercury. At each sitting each tonsil should three times be painted in turn all over with the solution on a cotton-wool sponge fastened to the end of a penholder. At the first sitting, a patient and gentle attempt should be made to remove all secretion from the tonsil, both in front and behind, but without wounding the mucous membrane. The soft palate and uvula should also be touched with the solution. The sittings should be repeated at intervals of three or four hours. If the treatment has been thoroughly carried out, with the help of good illumination, depression of the tongue, and appropriate phonation to enable the whole surface to be reached, even a single painting will be followed in the course of a few hours by a decided fall of temperature and a great improvement in the patient's condition, and the morbid process will come to an end after three or four paintings at the outside. No other treatment, internal or external, is necessary or desirable. Where four

paintings fail to effect a cure, the writer considers the fact proof of a diphtheritic infection, and proceeds at once to the injection of antidiphtheritic serum. His corrosive sublimate treatment is entirely ineffectual as against diphtheria, both the more usual form of diphtheria and also that which sometimes simulates a follicular tonsillitis. A. Sbrocchi (Clin. Mod., No. 33, 1905; British Medical Journal, November 18, 1905).

TUBERCULOSIS, COMPARATIVE STUDY OF VARIOUS FORMS OF.

The division of mammalian tubercle bacilli into two types, human and bovine, first proposed by Theobald Smith in 1898, has been amply confirmed. These types have cultural, morphologic, and tinctorial characteristics by which they may usually be recognized. The chief point of difference, however, is found in the very much greater pathogenic power of the bovine type. Bovine bacilli are, however, met with which have low pathogenic power. No other species of mammal has been shown to harbor a variety of tubercle bacillus so constant in its characteristics as to justify its classification as a third type. Other species suffering from tuberculosis derive their infection from man or from cattle. The human tubercle bacillus, as a rule, has a low pathogenic power for cattle, but cultures are not infrequently found which are virulent for the bovine race. The bovine tubercle bacillus has the power of invading the human body and producing the lesions of tuberculosis. It is at present unable to state the exact proportion of cases in which bovine tuberculosis is transmitted to man, but in view of the evidence at hand, the disease in cattle must be regarded as the source of a certain part of human tuberculosis, and any relaxation in laws and precautions

against bovine tuberculosis would be most unwise. M. P. Ravenel (American Medicine, December 9, 1905).

TUBERCULOSIS, FEVER DURING MENSTRUATION AN EARLY SIGN OF.

The writer announced four years ago that a rise in temperature preceding or during menstruation is a strong presumptive sign of a morbid process somewhere in the body. It points especially to tuberculosis, and if the woman is anæmic and thin, with a tendency to sweat and catch cold readily, the physician will do well to inaugurate antituberculosis treatment or to recommend a sanatorium, superfeeding or a course of cinnamic acid or iron and arsenic. He is convinced that the normal limit of the temperature is 37.5°C. (99.5 F.), measured in the rectum, and that even a fraction of a degree above this is fever. Sabourin and Kraus have also recently pointed out the importance of fever during menstruation as an early sign of tuberculosis. Measured in the rectum, a fraction of a degree above normal may be due to the hyperæmia of some inflammatory affection in the adnexa, but, if such can be excluded, then the assumption is in favor of tuberculosis. E. Franck (Berliner klinische Wochenschrift, Band xlii, No. 42; Journal American Medical Association, January 6, 1905).

TUBERCULOSIS, HUMAN AND BOVINE.

By bacteriological investigation of tuberculous lesions in human beings, cattle and swine, two types of tubercle bacilli can be detected which may provisionally be called *typus humanus* and *typus bovinus*. The wide-spread tuberculosis of cattle is to be traced exclusively to infection with tubercle bacilli of the *typus bovinus*. Swine are sus-

ceptible in a high degree to the tubercle bacilli of the *typus bovinus*, in a lesser degree to those of the *typus humanus*. The tuberculosis of human beings chiefly arises from infection with tubercle bacilli of the *typus humanus*, which is transmissible from man to man. Tuberculous lesions in human beings can be produced by tubercle bacilli of the *typus bovinus*. Tubercle bacilli of the *typus bovinus* can be transmitted to human beings by food derived from tuberculous animals, especially by milk of cows affected with tuberculosis of the udder. The part played by infection from bovine sources in spreading tuberculosis in man is small in comparison to the danger threatening from a consumptive human being. H. Kossel (*British Medical Journal*, December 2, 1905).

TUBERCULOSIS, RAW MEAT IN.

Raw meat alimentation has been employed by the writer in tuberculosis with excellent results. But to be effective, such alimentation must be systematic and continued. The meat is usually ordered in one of three ways: 1. Pounded raw meat, slightly seasoned with salt, served thrice daily. The meat must be perfectly fresh. 2. Beef juice, either extracted with water, or by means of pressure. 3. Raw meat soup, made by mixing minced meat with milk. The results of such a diet in tuberculosis is summarized as follows: The general appearance quickly improved. The soft flabby muscles fill up and become firmer, the sense of fatigue lessens, as does also the myotatic irritability. The pulse rate is lessened, and the blood pressure improved. There is a rapid increase in the amount of hæmoglobin in the blood, and a remarkable increase in the digestive leucocytosis. Hæmoptysis does not follow the adoption of the method. The

gastrointestinal functions become more effective, and intestinal metabolism is simpler and more complete, the stools improving in character. The temperature is favorably influenced and the increase in weight, while slow, is permanent. Local lesions are influenced favorably. R. W. Philip (*Lancet*, December 23, 1905).

TUBERCULOUS PERITONITIS.

Approximately twenty-five per cent. of all necropsies show active tuberculous foci. Three per cent. show tuberculosis of the peritoneum. Of the cases of tuberculosis about 10 per cent. show disease of the peritoneum. Of all forms of peritonitis, 25 per cent. are tuberculous, males more frequently than females, in the proportion of 2 to 1. The disease is most prevalent between the ages of 20 and 40 years, and these cases represent over 40 per cent. of the total. After the fiftieth year the disease is comparatively rare in the female. Cases are rather more frequent in the negro than in the white race. The most frequent complication is tuberculosis of the lung. Among women genital tuberculosis is responsible for 40 per cent. of the cases. Among men only a small percentage show some lesion of the genito-urinary tract. The other serous surfaces are frequently involved, but instances of true serositis number about 5 per cent. of the peritoneal cases. In laparotomies the fibrous form of the disease gives the greatest percentage of cures, and the ulcerous the smallest percentage. The average mortality is about .3 per cent. Not a few cases undergo spontaneous cure, but the ulcerous form is incapable of such restitution. W. Taylor Cummins (*University of Pennsylvania Medical Bulletin*, December, 1905).

TYPHOID FEVER, PATHOLOGICAL PHYSIOLOGY OF.

The writer believes that the evidences of to-day are sufficient to establish the modern idea that typhoid fever is a disease dependent essentially upon the bacteræmia. The Peyer's patches and solitary follicles are not the sources from which the typhoid bacilli are sent out into the circulation, but that their marked involvement is due to their peculiar histological structure or to some physiological relation that exists between the typhoid bacilli and the lymphoid elements. Perforation with the ordinary pyogenic infection, staphylococci and streptococci, is so much more dangerous than with the pathogenic infection, because to the latter there is already a partial immunity established. The diazo is a reaction to an end product, the result of rapid tissue destruction which is characteristic of all marked cases of typhoid fever, and of those other diseased conditions in which the reaction occurs. J. H. Barach (*New York Medical Journal*, January 13, 1906).

TYPHOID FEVER, TREATMENT OF.

The two essential aims in the treatment of typhoid fever, according to the writer, are to feed the patient and to starve the disease. He explains the empty bowel treatment, which he considers worthy of a thorough trial. As to the question of stimulants, he declares that they are not often necessary, and in the majority of cases should not be given. As it is hopeless to disinfect the fæces, the only course left is to suppress them. The writer speaks first of agents employed in the local treatment. Although neither paraffin nor charcoal is capable of arresting the growth of Eberth's bacillus in the bowel, neverthe-

less both are used in these cases with benefit. The writer has used the maximum daily dose of two teaspoonfuls of liquid paraffin every four hours for adults. This quantity might easily be increased. This substance in sufficient doses is a non-irritating mechanical laxative. Frequency in the repetition of the doses is indicated both for the sake of lubrication and for cleansing. Various authorities are quoted as to the value of vegetable charcoal. Secheyron advocates its use as a general household antidote, his opinion being that although it is not a germicide, nevertheless it absorbs the toxins; this agrees with Bouchard's observation that sleep is restored to severe cases of typhoid fever by the administration of charcoal. A systematic inspection of the fæces together with a daily examination of the abdomen will show if the powder is doing its office without any tendency to accumulation and concretion. An important part of the treatment is the frequent or daily administration of from one to two grams of castor oil every morning if the bowels should fail to act at least once daily. Under empty bowel conditions paraffin and charcoal are brought into direct contact with the diseased surfaces.

The writer has for some years entirely substituted whey for milk. Sometimes even whey has to be diluted, but usually complete absorption of the small amount of albumin which it contains occurs in the upper bowel except during the anapætic stage of typhoid prostration. The dietary of typhoid fever patients must contain the mineral salts and the organic acids and essences contained in fruits and vegetables. Common salt is a help to digestion and to metabolism. It should be given in the whey in the proportion of ten to fifteen grains to the

half-pint in addition to sugar. Phosphates may be given in syrup as a medical food, but a vegetable diet is the natural source for their derivation and for that of other mineral and organic salts. The watery extracts, duly strained, of vegetables and fruit, especially when freed by boiling from any excess of coagulable albumen, may be given. The juice of various fruits and a daily cup or two of vegetable soup or broth lightly flavored with fresh beef or bacon and carefully clarified are excellent. Fruit jellies may also be given. The nitrogenous supply is represented by peptonized whey, and, if desirable, by artificial peptones. However, white of egg diffused in the whey before peptonizing is a more simple form. Sugars and dextrines are all absorbable without residue. Clarified honey and maltine comes under this class. Oil is the least likely among the fats to yield any residue, but cream is more acceptable. It is substantially true that no organized remnant and no chemical precipitate can be left in the jejunum by the foods enumerated. It is the physician's duty to suit the proportion of each to the stage under treatment, remembering that it is a mistake to attempt much feeding during the first few days. William Ewart (*British Medical Journal*, December 9, 1905).

UMBILICAL CORD, ASEPTIC MANAGEMENT OF.

The following method is advised by the writer for the aseptic management of the umbilical cord: As soon as the child is born, the umbilical cord is clamped with one hæmostate about three inches from its abdominal attachment, and with another a short distance from the first toward the mother. The cord is then cut between the two, and is washed, as well as the abdomen sur-

rounding it, with a 1 to 4000 mercuric chloride solution. The vessels of the cord are exposed with a pair of scissors, the amniotic covering is stripped away, and a ligature, consisting of a piece of very fine sterile catgut, is thrown around the vessels and the cord is severed close to the ligature. The stump is washed in mercuric chloride solution. The baby should only be given a lap bath for about a week and the stump be kept aseptic. J. T. Schell (*American Medicine*, December 2, 1905).

X-RAY AND CANCER.

Ten cases of cancer are reported by the author in which excellent results followed the treatment by the X-rays. The cases were epithelioma, recurrence in the scars of operations for cancer of the breast, and one case of cancer of the rectum. Broadly speaking, the more recent the growth the greater the chance of a favorable result. Cancerous ulcerations, primary or secondary, can be made to heal with great rapidity. The author has seen enlarged glands disappear so often that he suggests such enlargement as often due to simple inflammation from irritation of the secretions of the original growth, and not to actual infection. It is advisable that X-rays should be used in all cancerous cases before operation, for even a few weeks will tend to arrest further infection. It is generally admitted that cases should be treated with X-rays after operation to prevent recurrence. In skilled hands the treatment is absolutely painless and free from danger. In extreme ulceration with sloughing, foetid discharge, the offensiveness can be made to disappear almost entirely. An actual cure cannot be promised except in small, superficial growths. The author's usual method is to treat the patient on several days in

the week to short exposures (from five to ten minutes) with the tube at a varying distance, according to the quality and quantity of its discharge, generally at a distance of from two to twelve inches from the skin. If septic symptoms arise they are treated in the usual way. In nearly all cases pain can be alleviated and made bearable. C. Williams (Lancet, November 4, 1905).

YELLOW FEVER: TREATMENT.

The author asserts that no one stricken with yellow fever should die unless there existed, previously, disease of the heart or the kidney. The first step necessary in the treatment of this disease is the administration of a large saline purgative, preferably sodium sulphate. This thoroughly cleanses the entire intestinal tract. It is not necessary to give calomel or any purgative, because the sodium sulphate, in addition to its flushing power, also acts as a cholagogue. Often when the patient is seized with the attack there is undigested food in the stomach. If this occurs a short time after eating the patient will vomit and empty the stomach of food. If the seizure comes on three or four hours after a meal, and there is still some undigested food in the stomach, there will be nausea. In such cases the author states that it is well to give minute doses of calomel for the purpose of quieting the stomach, so that the sodium sulphate will not be rejected. For this purpose the following combination is the best adapted to the purpose: A powder consisting of $\frac{1}{4}$ grain of calomel with 1 grain of ingluvin. This is to be repeated every twenty minutes until four are taken, and then followed in half an hour with one-half or one ounce of sodium sulphate dissolved in a glassful of water. Very frequently the in-

tense headache accompanying the onset of the attack will be relieved after the administration of the saline. If not, relief can be obtained by the old-time hot foot bath. One hour after the administration of the purgative, and without necessarily waiting for its action, the administration of the following prescription is begun:

R Potassi nitratis, $\mathfrak{z}\text{i}$ (4 grams).

Liq. ammoniæ acetatis, $\mathfrak{z}\text{iiiss}$,
(105 grams).

Syr. aurant. flor, $\mathfrak{z}\text{iv}$, (16 grams).

The adult dose of this mixture is half an ounce, repeated every two hours during the continuance of the fever. The liquor ammoniæ acetatis is administered in conjunction with the potassium salt for its action on the skin, as it causes free diaphoresis, thus favoring elimination. The potassium nitrate in addition to its specific effect as an antitoxin, also acts as a prophylactic diuretic. Within a few hours after beginning the administration of the above mixture the temperature, no matter how high at the outset, will begin to decline and will decline progressively until the end of the third day, when convalescence will begin. L. F. Solomon (New Orleans Medical and Surgical Journal, November, 1905).

YELLOW FEVER: TREATMENT.

In treating yellow fever, the constitution of the patient has a great deal to do with the plan pursued. For instance, the plethoric, strong bodied young person with high fever may take with benefit one 5 grain dose of acetanilid or phenacetin, and may use ice caps to back and front of head; whereas a delicate or weak subject should not be allowed even one dose of any of the coal tar derivatives or any ice application

whatsoever. The majority of physicians advise against the use of any of the coal tar derivatives in the treatment. The author prefers the hot foot bath treatment of an hour duration following the initial chill; this hot foot bath has become universally recognized in tropical climates. The only three ways in which ice is to be used are crushed ice to allay vomiting and to quench the thirst; ice bags under and on the head in hot fever and on the stomach to allay vomiting where hæmorrhage is suspected. Elimination by the bowels is just as important as that by the skin. An agreeable saline cathartic should therefore be given; or calomel and soda, 2.5 grains each, followed by some purgative mineral water. Quick flushing of the bowels is required, an enema or a glycerin suppository is ordered. Abso-

lute starvation from three to five days is advised. Furthermore, the kidneys should be kept functioning by water diuresis. As yellow fever is a germ or toxine poisoning circulating in the blood, which depresses the heart's action, special attention should be given to this organ. The patient should not exert himself, even to turning in bed, or raising the head in the effort of drinking. One-sixtieth grain of strychnine hypodermically with caffein will stimulate the heart's action. Yellow fever being intimately connected with malaria and dengue, these two diseases should also be watched in a yellow fever epidemic. During convalescence, liquid nourishment should be administered until the recovery is well established. Luther Sexton (Journal American Medical Association, November 25, 1905).

Book Reviews.

MODERN THERAPEUTICS. Fourth Revised Edition. By Dr. A. A. Stevens. 670 Pages. Philadelphia and London: W. B. Saunders & Co., 1905. \$3.50 net.

The fourth edition of Dr. Stevens' book on Therapeutics has been thoroughly revised and improved, bringing it up to the full requirements of present needs. Dr. Stevens is preeminently a writer who exhibits the power of presenting to the student and physician those points which are most necessary to be held clearly in mind. He has demonstrated this in a series of books which are of great help to the student. His manual on the practice of medicine, the seventh edition of which has just been issued, and reviewed in the *Monthly Cyclopædia* recently, is an exceedingly good book, of far greater value than many more elaborate or bulky text-books. The Therapeutics now under consideration is a clear presentation of practically all the current facts which can be presented in one medium sized volume. While it is true that a large proportion of the substances and preparations described could readily be dispensed with in practice, nevertheless those of less importance are judiciously subordinated and those of larger importance emphasized until it becomes a safe guide to the clinician.

J. M. T.

PRACTICAL MASSAGE IN TWENTY LESSONS. By Hartvig Nissen. 46 Original Illustrations. Philadelphia, F. A. Davis Co., 1906.

This little book of 168 pages presents a subject which is well worth the attention of every physician. Although the title is that of massage, a very large part of the book deals with systematic movements. It presents the A. B. C. of the Swedish methods in as clear a fashion as such restricted space is capable of, but it is sufficient to carry conviction to one medically educated who consults it to learn the how and why such work should be done. In

fact it is like the little books on medical subjects entitled "essentials" and "quiz compends," useful as far as they go, and suitable to review or to acquire brief hints but not adequate enough from which to learn the scope of a subject. Mr. Nissen refers to his larger book entitled "Swedish Movements and Massage Treatment," published in 1889, which would doubtless be more satisfactory to the physician. It is the opinion of the reviewer that all physicians should become familiar with the principles of massage and systematic movements because it is destined to play a large part in the future of the therapeutics, more especially as there comes a revolt, plainly indicated, not only in the mind of the physicians but the laity, against the abuse of drugs as remedial agents. Drugs are invaluable when rightly administered, and much knowledge is needed on the part of physicians on this great subject but there are many conditions which drugs cannot reach or overcome, which yet can be surmounted by massage, and no physician can claim to be a master of a most important department of his craft unless he be familiar with these exceedingly valuable auxiliary measures.

J. M. T.

NOTES ON THE COMPOSITION OF SCIENTIFIC PAPERS. By T. Clifford Allbutt. New York, MacMillan Co., 1904.

This book which appeared over a year ago, nevertheless demands notice and should be consulted by every one who attempts writing on scientific subjects. Dr. Allbutt says in his preface: "My hints, if, as I trust, they have some organic unity, are but comments on the more frequent or the more eminent defects in scientific essays," and hence he omits avowedly the dealing with subjects involving sublime qualities of life. The book consists of but two chapters, one of which is marked "Introduction" dealing with the fashion, purposes and choice of the academic and scientific subjects and essays, with practical suggestions, and outlining essential precautions. The second is on "Composition," and both make interesting reading, full of suggestion and warranting remembrance, and if employed, cannot fail to better the work of scientific writers.

J. M. T.

DISEASES OF INFANCY AND CHILDHOOD. By L. Emmett Holt, M.D., Sc.D., LL.D. Professor of Diseases of Children in the College of Physicians and Surgeons (Columbia University), New York. Third Edition, Revised and Enlarged. Cloth. pp. 1174. New York: D. Appleton and Company, 1906.

The new edition of this standard text-book on diseases of children will be welcomed, although the previous edition was issued only three years ago. There is no speciality in the whole subject of medicine in which more rapid progress is being made than in the subject of Pediatrics. It becomes necessary for the author to make *general* revision of his book for each new edition. Dr. Holt's book is so familiar to the medical profession at large that a full review of the work is unnecessary; all that is needed is a note of the changes in this new edition.

The size of the volume practically remains unchanged—it contains seventy-two more pages than the original edition, published in ninety-seven ('97); likewise there has been but little alteration in the general arrangement of the book. Some of the old illustrations have been removed, and at least twenty-five new and original pictures have been added. These are excellent and prove a most desirable addition.

Of the chapters which have been extensively revised may be mentioned the one on Hypertrophic Stenosis of the Pylorus. The author treats this subject, which until recently was seldom recognized, with the consideration due its importance.

Diarrhœal Diseases and Dysentery have necessarily been rewritten owing to the many advances made in these lines, especially as to the etiology.

We are glad to see the subject of Vaginitis dealt with in a positive way. This scourge of institutions for the care of infants, has never received from the general practitioner the attention commensurate with its importance. It is therefore necessary to bring it forcefully to his notice, and that Dr. Holt has accomplished in this edition. Too rigid precautions cannot be enforced to prevent the entrance of cases of vulvo-vaginitis to Children's Hospitals. When

once admitted it rapidly spreads among the female infants, and only the strictest quarantine of patients and nurses can hope to check its spread.

The edition contains a new article on Status Lymphaticus. This interesting condition with its definite pathological findings but indefinite symptoms is here concisely described. The author considers Status Lymphaticus in many cases to be the cause of sudden, unexpected death from some trivial operation, such as the injection of antitoxin or exploratory puncture. Although he does not speak of it under treatment, in the article he mentions the operation of elevation and anterior fixation of the thymus to the sternum. This procedure has been carried out successfully several times, giving immediate, but unfortunately only temporary, relief.

Other articles in which the principal changes have been made are the following: Examination of the Sick Child, Cerebro-Spinal Meningitis, Mental Defects, Chondro-Dystrophy, and Diphtheria.

Altogether the work has been carefully revised, and brought thoroughly up to date.

H. C. C.

THE PSYCHIC TREATMENT OF NERVOUS DISORDERS (PSYCHO-NEUROSES). By Dr. Paul Dubois. Translated and Edited by Smith Ely Jelliffe, M.D., Ph.D., and William A. White, M.D., pp. 466. Funk & Wagnalls Co., New York and London, 1905.

This book is one which gives pleasure to the reviewer. In the first place it is a masterly work on a subject of consummate importance which constitutes an essential part of every physician's work who deals with the sick person in whatsoever department or manner. In an editorial in the previous issue attention has been drawn forcibly to the value of suggestion training in volition and morals and much that was therein said might be repeated here. Every medical practitioner should be familiar with the fundamental principles set forth in this volume even if he should fail to attain that fullness of knowledge concerning the psycho-neuroses which would enable him to unravel the difficulties which are often neglected and thus prevent success. The presentation here exhibited is so thorough that no man, even though he be as familiar as is possible with neurotic disorders, can fail to learn much that will prove of value, and in the mere reading of it will sustain a vivid interest throughout its perusal. While it would be well for every physician to have a copy of this book, it cannot be expected that many will secure one, or even read it adequately if possessed. It would certainly be well to have it epitomized, forming a monograph of fifty or a hundred pages, which would make it far more useful. It is a temptation for one who, like the reviewer, has always been peculiarly interested in this class of disorders, to undertake this condensation, especially as it would exert an important missionary influence. As the translators say in their preface, the book is marked by a peculiarly open and balanced mental attitude which is maintained throughout, not only in the opening chapters, where the author describes the fundamental philosophy underlying the position he holds, but in the latter parts where he describes, clearly and charmingly, the exact methods by which he has won notable success. Dr. Dejerine in his preface characterizes Dr. Dubois as a physician and psychologist who has long perceived and ably taught the important rôle played by psychotherapy in the treatment of the neuroses. Physicians have persistently erred in treating these disorders almost solely by physical methods in spite of valuable works by Pinel and Lasègue. Dubois has shown the fundamental, if not unique, rôle played in the treatment of psycho-neuroses by what he calls psycho pedagogy or the reëducation of the reason. The whole work is that of a man dominated by clean-cut convictions in which optimism is also plainly visible. There is a judicious combination of history, philosophy and medicine. The author's style is charming, interest-sustaining, lucid and eminently practical.

Something must be said in praise of the translation which gives a quality to the work it would otherwise sadly lack, and impair our satisfaction. As has already been said it is a pleasure to peruse such a book, and it is our duty to recommend it cordially to all who are practitioners of, or interested in, the science of medicine.

J. M. T.

OPERATIVE SURGERY. By John J. McGrath, M.D., of New York, Second Edition, Thoroughly Revised. F. A. Davis Company, Philadelphia.

This is the second edition thoroughly revised of a book which has already won a satisfactory place in the confidence of the profession. The arrangement of the parts seems judicious, beginning with anæsthesia, hæmorrhage and its control. Then following is the consideration of the head, face, neck and tongue, thorax, abdomen and back, rectum, hernia and urinary system, upper extremity and lower extremity. The surgical anatomy has received rather more than ordinary attention and is considered directly with the procedures recommended. The drawings are diagrammatic, making them an advance in value upon many more elaborate ones. The second edition represents new matter on the subject of gastro-enterostomy, the surgical treatment of the diseases of the stomach and intestines; the operative surgery of the pancreas, spleen, etc., and the surgery of the prostate gland is elaborated with full reference to the section on diseases of the urinary organs. The illustrations are numerous and comprehensive, thoroughly clear and yet free from over elaboration. Many of them are full page plates beautifully drawn, and many are plates in three and five colors, exhibiting the circulation graphically and other parts which require differentiation.

J. M. T.

SAUNDERS' QUESTION COMPENDS. Essentials of Materia Medica and Therapeutics. By Henry Morris, M.D. Seventh Edition Thoroughly Revised by W. A. Bastedo, Ph.G. Philadelphia and London: W. B. Saunders & Co., 1905. Cloth, \$1.00, net.

It is scarcely necessary to do more than call attention to the seventh edition of this eminently valuable little book which has, however, been improved by the addition of articles on diphtheria antitoxin, thyroid extract, organotherapy and the omission of some obsolete drugs. The title of the book calls attention to prescription writing, and at no time in the history of medicine has it been more important than now that this should be kept in mind by the students. It is the duty of all conscientious physicians to realize the gravity of the situation made by the conflict between legitimate medicine and the purveyors of nostrums and to hold before their constant attention the value of good prescription writing. If we, the conservators of health, neglect our obvious duty to understand the principles of medication and to apply them in a scientific manner to the needs of patients, we will soon forfeit the right to practice. It would be well for every practitioner to consult frequently such books as this and condemn to the waste basket many of the circulars which flood our morning mails.

H. C. C.

AN AMERICAN BOY AND THE SOCIAL EVIL; FROM A PHYSICIAN'S STANDPOINT. By Robert N. Willson, M.D. John C. Winston Co., Philadelphia, Chicago, and Toronto, 1905.

This little book containing four addresses on a most important subject is unique of its kind and destined to prove of much value. It is an exceedingly difficult problem to present a much shunned subject in an acceptable fashion and, while something might be said in criticism, nevertheless on the whole it is difficult to see how it could be better done. The author is possessed of deep religious feeling and has an enthusiastic interest in young men, although obviously he has not had that kind of personal experience with vice which puts one in possession of a familiar grasp of the underside of things. Assuredly the book is to be commended and the reviewer hopes that it may fall into the hands of and be read by every American boy.

J. M. T.

A TEXT-BOOK OF MEDICAL CHEMISTRY AND TOXICOLOGY. By James W. Holland, A.M., M.D., Professor of Medical Chemistry and Toxicology, and Dean Jefferson Medical College, Philadelphia. Fully Illustrated. W. B. Saunders & Company, Philadelphia and London. 1905.

Professor Holland's Text-Book of Medical Chemistry and Toxicology includes a vast amount of knowledge not usually found in such works. The remarkable development of

physical sciences in recent years and especially their application to many of the phases of function, have been borne in mind by the author, and his book, therefore, embodies the principles which to-day are absolutely necessary to the well-trained physician. It includes a brief but lucid consideration of many of the problems in cryoscopy, osmotic pressure, electrolytic dissociation, mass action, radio-activity, etc., all of which, as he justly says, "should find a place in the medical text-book to the extent, at least, of a preliminary statement of the principles involved."

The book is not only applicable to the use of students, but likewise to that of the practitioner. Organic chemistry, which is steadily asserting itself as the basis, not only of the normal processes of the organism, but also of disease and therapeutics, is admirably, though succinctly, reviewed. The ptomaines and toxins, including the food toxins, the infectious toxins, and other subjects of paramount interest are also considered. The work closes with a beautifully illustrated chapter on urinalysis in which the clinician may without loss of time, obtain all the practical data he may require. On the whole, Professor Holland's "Text-Book of Medical Chemistry and Toxicology" may be highly recommended.

C. E. de M. S.

COLOR-VISION AND COLOR-BLINDNESS. A Practical Manual for Railroad Surgeons. By J. Ellis Jennings, M.D. (University of Pennsylvania). Formerly Clinical Assistant Royal London Ophthalmic Hospital; Professor of Diseases of the Eye, Medical Department Barnes University, St. Louis; Ophthalmic Surgeon to the Centenary Hospital; Ophthalmic and Aural Surgeon to the St. Louis and San Francisco Railway System, etc., etc. Second Edition. Thoroughly Revised with Illustrations. 132 Pages, Crown Octavo. Price, Extra Cloth, \$1.00, net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia, Pa.

This is the second edition of Dr. Jennings's excellent work. The dangers of defective Form and Color-sense in railway employes have been set forth so convincingly by the medical profession, both individually and by resolutions of representative medical bodies, that to-day practically every railroad company in the country requires employes to be examined as to their color-sense, vision and hearing. Much of this good work has been done since the publication of this manual in 1896.

In preparing a second edition of this book for the press the whole has been carefully revised by the author, and the following new matter added:—1. A chapter describing the methods of testing the form and light sense. 2. A chapter giving the rules for the examination of the sight and hearing of railroad employes adopted by the House of Delegates of the American Medical Association. 3. Descriptions of Williams's and Thomson's lanterns, Williams's and Black's Semaphore Charts and Abney's pellet test for central scotoma, and 4. Five new illustrations.

Dr. Jennings's book should be in the hands of all railroad surgeons.

C. E. de M. S.

Books and Monographs Received.

The editor begs to acknowledge with thanks the receipt of the following books and monographs:—

Os Mosquitos no Pará. Reuniao de quatro trabalhos sobre os Mosquitos indigenas, principalmente as especies que molesta o homem. Pelo Professor Dr. Emilio Augusto Goeldi, Para, Brazil. 1905.—A Trip to the Land of the Midnight Sun. By F. B. Tiffany, Kansas City, Mo., 1906.—Faulty Diction or Errors in the Use of the English Language and How to Correct Them. By Thos. H. Russell. 1905.—Strictures of the Urethra: Their Pathology and Treatment. By E. G. Ballenger, Atlanta Ga., 1905.—Twenty-first Annual Report of the Bureau of Animal Industry, for the Year 1904. United States Department of Agriculture,

Washington, D. C. 1905.—*Mineral Waters of the United States. I. Classification and Methods of Analysis. II. Commercial Waters. III. Saratoga Waters Sampled at Source.* By J. K. Haywood, with the Collaboration of B. H. Smith, United States Department of Agriculture, Washington, D. C. 1905.—*The Milk Supply of Boston, New York, and Philadelphia.* By George M. Whitaker, United States Department of Agriculture, Washington, D. C. 1905.—*Inoculation of Legumes.* By Karl F. Kellerman and T. R. Robinson, United States Department of Agriculture, Washington, D. C. 1905.—*Meat in Foreign Markets, Tariffs of Fourteen Importing Nations, and Countries of Surplus.* United States Department of Agriculture, Washington, D. C. 1905.—*The Clover Root-Borer.* By F. M. Webster, United States Department of Agriculture, Washington, D. C. 1905.—*The Corrosion of Fence Wire.* By Allerton S. Cushman, United States Department of Agriculture, Washington, D. C. 190.—*Butter Making on the Farm.* By Edwin H. Webster, United States Department of Agriculture, Washington, D. C. 1905.—*Experiment Station Work xxxii,* United States Department of Agriculture, Washington, D. C. 1905.—*The Forest Service: What it is and How it Deals with Forest Problems.* United States Department of Agriculture, Washington, D. C. 1905.

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Editorials.

DEPARTMENT IN CHARGE OF

J. MADISON TAYLOR, A.M., M.D.

THE LAW AND HYPNOTISM.

CREDULITY is a fixed quality of human nature. Estimated by the light thrown upon it by the case at bar, it differs neither in quantity nor quality from that which led to the burning of witches at Salem. We have reached a high level of material progress, but we have attained this without any adequate increase in

intellectual or moral stability. It is the age of the college and the high school, but education has had no effect in lighting the dark places in the mental complex. In fact, it is the so-called educated classes that furnish the active material of the mentally blind. Christian Science is a psychopathy of the educated, as it is understood by the people. It is also true of nearly every form of heterodoxy.

A trial at law is regarded by the laity as an occasion that lays bare the cold, unbiased facts, which, after they have been ground bare of all sentiment between the upper and nether mill-stones of legal machinery, contain no element of credulity or superstition. Whether this is so or not, the case before us illuminates a certain state of mind on the part of the laity that made up the jury and the lawyers and judges connected with the case.

One phase of the case is the extraordinary attitude of the trial judge. That the evidence was allowed to go to the jury as something upon which they could find a legal verdict is a reproach to the dignity of the law.

The following is a brief history of the case, with the opinion of Justice Nash, but sufficient to give an understanding of how narrow is the margin between justice and wrong when evidence is sifted by a judge and jury. The case is entitled *David Austin vs. Frank Barker*; first trial at Rome, N. Y., March 24, 1903.

The case was before the Appellate Division a second time on appeal from a recovery by plaintiff. Upon the trial of an action for the seduction of the plaintiff's daughter, who, in August, 1901, gave birth to a child, the only evidence tending to show that the defendant had improper relation with the plaintiff's daughter was given by the daughter herself. She testified that she had no recollection of the acts which occurred until just after her child was born, and then only after being hypnotized by the plaintiff's counsel, Mr. Searle. She also claimed that she was hypnotized by the defendant. As to all ordinary occurrences, before and after, her recollection was clear; that there was no loss of memory on her part except so far as the acts on which the suit was brought.

The opinion in the case was written by Justice Nash, who said, in part: "Hypnotism is defined to be a name applied to a condition artificially produced, in which the person hypnotized, apparently asleep, acts in obedience to the will of the operator; and we are told by the authorities upon the science that upon awakening there may be a vivid recollection of all that happened during the apparent sleep. If such were the case here we should have some evidence to support the claim made by the witness that her memory was restored by the operation. It was the duty of the plaintiff to have furnished the court by the testimony of the operator, or of those present, presumably the plaintiff and members of his family, with some evidences, if there were any observable, of information imparted either by or to the daughter upon her awakening. She does not know,

except as she has been told, how she was informed of the occurrences to which she testified. She does not even know that she was hypnotized. She attributes the return of consciousness of that of which she was before unconscious to hypnotic influence. In effect, her testimony as to events of which she was before unconscious is hearsay knowledge, not of her own, but acquired."

Two physicians were called by plaintiff, but the justices say: "It is needless to observe that the physicians in no manner explained the extraordinary lapses of memory testified to by the witness. Their testimony accords with the ordinary experience that such varied mental aberrations do not and cannot occur. The plaintiff has failed to meet the demand made by this court on the former appeal for evidence tending to sustain the probability or possibility of what is claimed in behalf of the plaintiff.

"The question is not whether the verdict is against the weight of evidence. It is whether there is any evidence of sufficient weight to support the verdict. It was held by this court upon the former appeal that, as the case then stood, the evidence was not sufficient to sustain a verdict in favor of the plaintiff. The evidence of the plaintiff, in view of the attempted explanation by medical evidence of the unusual mental aberrations, unaccounted for, and the absence of the explanatory evidence suggested by the court on the former appeal, is of weaker probative force than before. The evidence here must be deemed so unreasonable, so contrary to all rational experience, that a verdict based upon it ought not to be permitted to stand. The judgment should be reversed and a new trial granted, upon the ground that the verdict is entirely unsupported by the evidence.

"Judgment and order reversed and new trial ordered, with cost to the appellant to abide the event upon questions of law only, the facts having been examined and no error found therein."

No fault can be found with the Appellate Court. It proves that they had a correct idea of the phenomenon of hypnotism, but also a due regard for its value as evidence in a trial at law. It is at the trial court that the interest centers. Here it is brought close to the people, gives bias to their minds, and leads twelve honest men to commit an injustice to a neighbor. It seems impossible to avoid the conclusion, so successfully was the evidence of the plaintiff's witness, his daughter, refuted at every point, that the jury would not have rendered the same verdict twice had it not given undue and credulous value to the girl's statement about her hypnotic state. To give a clear understanding of this remarkable case it is necessary to refer briefly to the evidence.

Miss Edith Austin testified that October 30, 1900, the defendant called at her father's house, and after a "scuffle" put her upon a couch and committed the act. She also states that on November 4th, 8th, 11th, 16th, 20th, 24th, and

December 1st the same relations, without the scuffle, were held one or more times at each visit. After the last date she was uncertain as to further dates. These dates were in nearly every instance met by the defendant's witnesses and refuted.

On cross-examination she admitted that she had not given the precise dates. She knew them, but did not know why she had not given them. "I had the precise dates in my diary. My diary was there at the time, and I only gave him the dates that I have given you." She testified that the defendant slept on the couch fifteen or twenty minutes. She sat near him on a chair. On waking he got up and sat near her, and without caresses or endearment he made an improper proposal, which she repelled. After some conversation on subjects not related to that, he lifted her up and forced her upon the couch, with the result testified to on the direct examination.

This concludes all there is of importance at this stage of the trial. It reads like one of the common debauches that are but too frequent along the countryside. It is tiresome to read and disgusting to be obliged to know, but there is more coming which marks Edith Austin as capable of one of the sharpest plants ever offered as evidence, or, if true, it will require another chapter added to the science of psychology. It is proper here to say, before introducing the second stage of the evidence, that there is no suspicion but that Miss Austin testified to what she believed to be true under the controlling influence of hysteria or erotomania. What she said she wished to be true, and to her blurred moral perspective appeared as such.

The interesting part now appears. Mr. Jones, for the defense, stated to the court that, since the adjournment the previous evening, he had received information which would cause him to be guilty of a grievous dereliction of duty if he omitted to investigate it. When the line of new evidence was stated privately to the judge, the questions were allowed. Miss Austin returned to the stand and stated that she was hypnotized by Mr. Searle, her father's lawyer, who simply told her to go to sleep. While in that condition she had given dates of her relations with Mr. Barker and had never given these dates to any one before. It seems proper here for me to make a single comment. If she was unconscious of passing events, as she alleges, from the time she was hypnotized by Mr. Barker up to the time that she was hypnotized by Mr. Searle, what kind of evidence was this to be allowed to go to the jury except under the strongest condemnation in his charge by the trial judge? She continues her evidence. While in a hypnotic state by Mr. Barker she made entries in her diary of these dates, and of having made these entries she had no knowledge until hypnotized by Mr. Searle. A few questions and answers will prove interesting as showing how persistent and fixed was the delusion in the mind of the witness.

Q. It did not come to you as to what occurred when Barker hypnotized you until after Mr. Searle hypnotized you, did it?

A. Not in a way.

Q. In what way?

A. I know that it was Mr. Barker.

Q. I know, but you did not know that he had connection with you, did you?

A. Yes, sir.

Q. When did you know that?

A. When I gave birth to the child.

Q. Was that the first time that you knew it?

A. Yes, sir.

On cross-examination by Mr. Searle she tells more in detail of her hypnotism by Mr. Barker. "He took the hair pins out of my hair and took it down. During the period of my pregnancy there were many things which happened which I have no memory of until the child was born." The comment by Mr. Searle concerning unconscious entries in the diary in arguing an objection will serve to give us an idea of what these twelve honest farmers had to endure.

"I propose here," he said, "that there was here a case of double personality, during which period, whether caused by her pregnancy or something else, she did many things of which she had no recollection, and wrote things of which she had no recollection for a time. And that that continued after the child was born for a time. That since then her recollection has returned to her, so that she recalls not only those things that happened during that period, but the things that she has detailed. That the two personalities were brought together so that she recalls what happened in both states and in each condition."

When the court said, "I will receive it," comment is unnecessary. This argument was allowed to be made before the jury.

Justice Scripture does not touch on hypnotism as evidence in this case. He does not instruct the jury not to receive it. He simply states that it has been considered by learned doctors and some lawyers, but has not been received in American jurisprudence. Did the evidence have some weight with the jury? An impartial reader must say that it did. This also appears to be the opinion of the Appellate Court in both of its adverse opinions. It seems to be proper to conclude that when an entire field of quasi science is not received in jurisprudence, any part of it ought to be excluded as evidence.

It is a mystery where Miss Austin got her theory of hypnotism. Certainly not from the defendant Barker, who had never read, seen, or heard anything about it. Miss Austin had everything wrong but the name. She describes no hypnotic phenomena and her amnesia came on too early to be the result of a psychopathy

of pregnancy. Mr. Searle, in his brief as respondent, goes into the literature of hypnosis very thoroughly. He has evidently a mind with mystic tendencies. "Sully's Psychology," "James's Psychology," "Moss's Hypnotism," "DeLaurence's Practical Lessons in Hypnotism" are freely quoted. That he was not entirely satisfied with the hypnotic theory is shown by his liberal extracts from psychological authors relating to dual personality.

On the second trial Miss Austin changes her testimony by admitting partial recollection, when in the first her amnesia extended over a year, thus violating all accepted description of the hypnotic state. The evidence of Miss Austin is taken from the second trial. Her evidence given on the first trial is much more assertive concerning the alleged hypnotism. She does not remember anything, even before she was forced upon the couch. She does not remember when her drawers were removed, or when her belt was taken off. She remembers no instance of her relations with Barker. She had no consciousness of making entries in her diary. She was not conscious of her pregnancy at any stage of gestation. This continued for some time after the child was born and until hypnotized by Mr. Searle. Not only did this amnesia relate to past events, but continued in matters of her daily life. Like a trip to Utica, an unusual event.

Enough has been said to make plain how necessary it is to guard against the fallibility of judges and the credulity of juries. The evidence in this case seems like a backward drift to ancient jurisprudence and old Roman law. It has no touch of modern flavor and reads like the chronicle of a monkish legend. Reputation, life, and fortune are at the mercy of false science, distorted facts, and immeasurable credulity.

ELY VAN DE WARKER.

NUTRITION IN TUBERCULOSIS.

THE science and art of inducing proper nutrition in our tubercular patients seems, after all our studies, to be the main point in our battle against the disease. It is a disease, above all, of perverted metabolism, a burning up of tissue, well called consumption. We may have mild or virulent infection, or strong or weak resistance, but when the digestion or heart is at fault we feel the case always to be a serious one, while, when absorption is good, we feel hopeful, and if nutritious foods are properly sent to repair the damaged tissue, we know there will be an effort towards arrest and recovery.

In treating pulmonary consumption, our first care should be to carefully study in detail the nutritive possibilities of each particular case. With every scientific knowledge of physical diagnosis, laboratory research, or climatology, we shall fail in our duty to our patient unless we know how to use our best weapon

against this disease, and that is proper nutrition. The subject, however, is no easy one, and often requires our best tact, experience, and judgment to accomplish. Not only do we need food, but we need it without delay and often in excessive quantities. We cannot delay, as every moment counts in the struggle against the enemy. But the organs we count upon to assist us in curing the lung destruction are often themselves impaired or at least functionally deranged. We frequently find that the salivary glands do not secrete by one-half their proper active ferments, stomach mobility and acidity are deficient in 50 per cent. of our cases, while torpidity of liver and bowels, mental depression, and distaste for food cause a puzzling array of symptoms to overcome, and no rule of thumb will suffice to accomplish success, but only detailed and careful study of each case and each organ.

When I have first seen a patient and examined the lungs, I feel that I am only really at the beginning of the examination, and not at the end. A plan I have found practical and useful in arranging nutritive treatment is to have each patient bring a detailed statement of food eaten at each meal for several days. It is then quite a simple matter to write out a table of comparative proteid, carbohydrate and fat values and enter it in our history cards, and frequently by doing this we can intelligently modify the food to meet the requirements of each patient, very much, in fact, as we modify milk for the use of infants, with such favorable result.

Of course, the value of the food taken depends upon its digestion, and not on its chemistry, and the weight gain of a patient is more important than an ideal diet; but a system is of more benefit than no system, and to establish a "tubercular ration" adapted to the case is of much value.

It seems unnecessary to mention fresh air in these advanced days of outdoor cures, and yet I am confident that many patients and some doctors fail to appreciate the necessity of the proper ventilation of a dining-room. Although by many patients the open-air cure is taken religiously, we see these same patients at health resorts all over the United States crowded together three times a day in stuffy, over-heated, badly ventilated dining-rooms. Many have heard the story of the restaurant keeper who gave his patrons all they could eat for twenty-five cents, but who found that if he properly ventilated his dining-room at meal hours he lost money, as his patrons ate so much more in fresh air. This has a moral for the tubercular, as the appetite is lost or impaired in bad air.

Another and very different point, but one of much practical importance to our neurotic Americans, is what we may call the psychological aspect of our consumptives' nutrition. I do not mean the proper and tempting serving of food, important as it is, but the "table atmosphere." Our patients are particularly

susceptible to nervous influences, to adverse suggestion, and so forth, during the eating of food. It is unfortunately only too common to see at tables where tubercular invalids are gathered together in boarding-houses and elsewhere at health resorts, the personal element in the conversation so pronounced. In fact, the chief topic of conversation often seems to be consumption and its different symptoms. These subjects are no doubt of absorbing interest to the idle invalid, but are certainly ones which should never be mentioned during the meal hour. The annoying cough, fever, wakefulness, and discomforts of the previous night are discussed at breakfast with a freedom and eagerness astonishing to any refined person and disgusting to many a nervous invalid, causing a detrimental loss of appetite, which, weak at the best, vanishes before such ill-bred and tactless conversation. In the home circle, however, the pulmonary invalid, one would imagine, would be treated with more consideration by those nearest and dearest. But here, also, serious mistakes are unfortunately only too common and have to be guarded against by the physician. The invalid will have his comfortable home at a health resort, surrounded by his solicitous family. In the morning the family, having had breakfast when the tardy one appears, are, we may say, in the dining-room waiting to greet the loved one with cheer and comfort. At his appearance at once there is much mistaken activity. Windows are closed in haste for fear of drafts. Solicitous inquiries are at once made: "How tired you must be; I heard you coughing in the night." "How ill you are looking, poor dear." The focus of all eyes, with a feeble appetite at best, and, it must be admitted, often a rather uncertain temper, our poor invalid has to submit with the best grace at command, and to hear a running comment, intended to be encouraging, as the following: "Oh, do eat some more; you don't eat enough to keep a bird alive!" "Now you know what the doctor said," etc., etc. Such an order of suggestions carried on day after day will certainly cause in the average invalid who is ill a distaste for all food, and this will seriously impair nutrition. But, alas! this can only be remedied by great tact on the physicians' part. To relieve the situation one has to exercise great patience. We must always remember that such suggestions, unfortunate as they are, arise from anxiety (combined with ignorance), and therefore have to be handled with gloves, as to offend any member of this anxious group will do more harm than good and ultimately react on the patient we wish to serve.

A new food in the last year has been used with considerable success, the juice of raw vegetables. I am giving it a rather extended trial, without, I confess, any particular result. In a few cases it has supplanted cathartics, which formerly had been taken. Some patients have been enthusiastic over its effects, but we all know what a powerful medicine suggestion is; any new treatment will be received with open arms for a time; when the novelty wears off the reaction comes.

For the present, at least, the last word has not been said regarding the benefit of raw vegetable juice; although we can at least imagine that certain valuable salts or ferments exist in the raw juice that possibly are not so efficacious when heat has been applied, as in cooking.

Of late years there has been a decided reaction from the old method of so-called "stuffing" our tubercular patients, often regardless of consequences, and no doubt with serious injury to a certain number. Most of us to-day proceed with more caution, and, in fact, we find a gain in weight more rapidly induced by three fair meals a day than by food given two or three hours apart, the rest given the stomach by longer periods being of so much value.

It has been suggested that possibly the excess of proteid food in our forced feeding is an error and causes irritation and other ills, and that the proper diet for the tubercular should consist of more fat and carbohydrates and less nitrogen from meats. It is interesting in this connection to notice recent work in physiological chemistry. We now know by such work as done by Chittenden, Otto Falin, and others, that healthy adults really are in better health and strength when the nitrogen in their food is reduced one-half, and very probably many people do consume far more than the system needs under ordinary circumstances. But it is unwise to conclude from this fact that in tuberculosis, which is an abnormal condition of nutrition, we can reduce the proteid with impunity. Unfortunately, experiments along this line have not been convincing; the methods have not been, at least to my mind, scientific. It certainly seems convincing when we read of the brilliant result obtained by giving the tubercular poor of our cities a diet poor in proteid from meat, but we must remember that the tubercular poor have been living for years upon food not only poor in quality, but in quantity as well. It is no surprise to me that cases of tuberculosis from the sweat shops, who have lived on rotten food from the push carts, and very little of that, when given a diet of vegetables and meats gain flesh and improve. Give them enough of any simple, well-cooked food and they will thrive. We often see this when they are in a hospital. But I believe these same people will gain more in flesh and improve faster if given a liberal diet of good beef, eggs, and milk, than on a more non-nitrogenous diet. In a rapidly wasting disease like tuberculosis we have to use easily digested and quickly absorbed proteids. Clinical experience has shown us this fact, and such proteid food should consist of meat, eggs, and milk, with cereals, vegetables and greens used wisely and intelligently and adjusted to suit the individual case, with fresh air to oxygenate the blood. A diet such as this is the best weapon we now have against consumption.

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TREATMENT OF RHEUMATISM AND GOUTY STATES AT THE VIRGINIA HOT SPRINGS.

THERE is a prevalent and firmly-rooted misconception regarding the action of mineral water baths when applied for the cure of diseases like rheumatism and gout. Great stress is laid on the chemical analysis of the water, and the belief is almost universal, among patients, at least, that these elements are absorbed directly through the skin and thus counteract the disease. Their faith in the efficacy of particular springs, though resting upon an unscientific foundation, need not be disturbed. There are other qualities far more potent in the thermal springs than the sodium chloride, the calcium carbonate, or other minerals. As Dr. Baruch says: "The marvellous results from bathing in these hot springs are not attributable to absorption of the mineral ingredients of the waters, but to the excellent method of their application by experienced physicians . . . and the influence of a changed mode of life. . . . The heat or cold conveyed by the peripheral cutaneous nerves to the central nervous system and thence reflected through the motor tracts is the really effective element in the mineral baths. The latter are aided by only such ingredients as stimulate the cutaneous nerves, *e.g.*, strong saline or Co_2 constituents." "The mineral ingredients of the water are of little consequence."

Professor Heinrich Kisch, of the University of Prague and of Marienbad, holds similar views, stating that the efficacy of baths prepared with thermal earthy waters, thermal calcium, or lime baths depends chiefly on their high temperature, and to some extent, according to certain authorities, on the presence of calcium salts. He declares there is little to support the latter view, however, and does not believe that it is possible to distinguish the effect of these baths from that of those acrato-thermal baths which increase the temperature. From the most careful experiments conducted by Strasser, Bartels, and others, it is shown that the great influence of baths is due to the fact that the action of all thermic irritants is reflex. The contraction of the peripheral vessels improves the tone of the vessels in the muscles; the heart is invigorated by the resistance in the circulation; respiration is deepened and all tissue changes are accelerated.

The most striking evidence of increased catabolism is in the greater elimination of urea and uric acid. Nitrogen and Co_2 are always excreted in greater quantities during the bathing period, whether the measures employed consist of douches or hot or cold baths. Reliable studies show that the urea is commonly increased from 10 to 20 per cent.; the uric acid from 20 to 30 per cent.; phosphoric acid, 35 per cent.; and ammonia, 40 or 50 per cent. Such changes must inevitably favor the elimination of morbid products, whatever we consider these to be, and

thus we have a rational basis for our belief in the efficacy of hydrotherapy in a wide range of chronic affections.

At the Hot Springs of Virginia the waters are applied at temperatures from 95° to 104° F. The patient for whom such treatment may be deemed suitable is usually placed in a full bath containing about eighty gallons of water constantly flowing in and over the tub. His head is covered with a turban wet in ice water; an attendant rubs the limbs and the body as he lies there, and, in successive baths, applies movements graded in force to the affected joints. In patients accustomed to hot bathing it is possible to begin with a temperature of 104°, which in most cases is quite agreeable. After eight or ten minutes of the full bath, he is dried and laid on a couch, where he is closely packed in a hot, dry sheet and enclosed in three or four blankets and allowed to remain for eight or twelve minutes; after which he is rubbed vigorously with alcohol for five minutes. On the fourth day the bath is omitted, and afterward the baths include a preliminary hot douche applied all over the body, excepting the head, the anterior chest, and abdomen. The elements of this bath are naturally adjusted in time and in force to the needs of the patient, as may be determined by his medical adviser. Cool sponging or a cold douche is frequently employed after the pack. General massage is also employed in suitable cases some time during the day, but not usually directly after the bath. Many of the details of treatment and their variations in different classes of cases cannot be reiterated here.

In addition to what has been said, the rationale of this method of treatment lies in the better circulation established and in the increased mobility of the tissues involved. Exudates in the fibrous investment of joints, in the sheaths of tendons and in the muscular tissue create more or less disability, and if untreated by external agencies tend to increased pain and stiffness, if not to fixation of the limb. In the case of spinal arthritides even more serious fixation and deformity are likely to ensue, and hence the usefulness of general physiologic measures like hydrotherapy and massage. In a systematic course of bathing the secret of success lies in a judicious education of the patient to bear heat and manipulation in an increasing gradation; mild measures at the outset secure confidence, and later a degree of manipulation is possible, depending on the special characteristics of the case in hand. It is well known that when limbs are immersed in water less pain is elicited on active or passive movements than when the same movements are practiced in the usual atmospheric medium. This fact is taken advantage of to the fullest extent and constitutes one of the advantages of the full bath in these cases; the skin acts more freely and becomes pliable and free from all excretory matter. The blood-vessels of the part, both superficial and deep, are enabled to take up and carry off any exudates or infiltrates, which always exert a restrictive

influence on the motion of the structures involved and their proper interchange of circulation; therefore we have the great advantage of improved nutrition. Secondary muscular atrophy, which is commonly observed in chronic joint disease, may be forestalled if treatment is started early, and especially when massage is used judiciously in connection with hydrotherapy.

The use of mineral waters internally has a supplementary action in connection with baths. All the waters at Hot Springs, Virginia, are calcareous, and those used internally are distinctly diuretic. Exercises, such as swimming, graded walks, golf, horseback riding, are valuable adjuncts in the treatment of arthritis deformans, and the liberal and wholesome diet constitutes no unimportant factor. These patients need building up, as a rule, and all the air, sunlight, exercise, and good food possible.

GUY HINSDALE.

REMARKS ON THE FEEDING OF YOUNG CHILDREN,

INCLUDING HINTS TO MOTHERS.

THE feeding of children is the foundation of citizenship. Unless this be done in accordance with their needs, the whole superstructure of preventive medicine cannot stand. It has been proven that the most important formative period of the human being is the first three months of life. It should be obvious that the delicate embryonal structures of infants, which later acquire amazing tolerance to hurtful agencies, demand the utmost solicitude while beginning to adjust themselves to external influences.

Of all these influences none compare in potentiality to the food supply. The structures of all infantile organs, especially those concerned in digestion and elaboration, are aggregations of cells newly emerging from the simplest of primitive forms. The nervous control mechanisms are barely able to functionate, with little capacity to provide resistance to irritants other than normal. They are capable of dealing admirably with suitable materials; but if those presented are unfit, the strain put upon the whole organism is out of proportion to the powers of resistance and something fails, gives way. If these strains are too severe or prolonged, damage thereupon ensues either to structure or physiologic habit, which can never be repaired. The individual is thereby rendered incapable of that marvellous conservation and attunement to opposition which otherwise is acquired, and sinks to a lower plane of vitality than that of which the inherent powers are capable.

The substitute feeding of infants has been placed upon a firm foundation by Jacobi, Rotch, Chapin, Holt, and others, constituting an epoch in the history of

medical research. No single clinical principle compares with this in importance to the human race; it is a triumph of practical adaptation of physiologic teachings. Nevertheless, it is still far from perfect.

Rotch was the prophet of accurate percentage feeding, and others elaborated or modified his teachings. The belated consciousness of many who saw the urgency of this measure and had partly grasped the principles were thus forcefully impressed. It proved a beacon light, a great stimulus, whereby many lives, and more constitutions, were saved. The most valuable result of all this is that fuller attention is now given to the accurate adjustments of individual food demand to supply. The way to solve the problems of nature is to get the actual facts, in all their bearings, determine the principle on which they stand, and then teach the simplest means of accomplishment.

Nearly all forms of animal life require for their sustenance due proportions of fats, proteids, carbohydrates, inorganic salts, mineral matter, and water. These are derived from plants or other animals; it remains to determine the form and sources from which they can best be supplied. A young animal passing from the single initial cell through the various stages of embryonal, infantile, and adult life exhibits wide varieties of organic capacities and adaptabilities. For each one the demands for chemical substances are similar, yet it makes a vast difference in what form these are met. We need to know as much as possible of the governing biologic principles and variants, much more than we now do; but so far our one safe guide is experience, modified by wisdom, and illumined by science, but not wholly guided by scientific findings, because they are not yet perfected, nor will they soon be.

The only safe perfect food supply for the young is the mother's milk, whoever else—parent, physician, nurse, or meddlesome bungler—attempts to suggest otherwise commits a grievous sin. Unfortunately, it is the innocent, helpless babe who suffers, not the reprehensible adult, influenced by ignorance or malice. Substitute feeding, now developing into a fairly safe measure, is by no means an unmixed blessing. It serves as an excuse for many mothers to neglect that highest of her duties which ought to be cherished as also the loftiest privilege. When circumstances make this normal food supply impossible, then we must do the best we can, but the problem is always a complex one, fraught with hourly perils.

After the digestive tract has passed through the evolutionary period of adaptation to milk, or its equivalents, it gradually acquires capabilities of utilizing foods similar in character to that of the parents. So much attention has been centered of late on the perfecting of close imitations of human milk that the period of transition to later digestive conditions is often neglected. Whereas the

earlier weeks of the infant's life are of the most fateful significance, mistakes made here are totally irrecoverable and only partly remediable, yet the errors of the later years are only second in importance. The child is not a small adult, it still retains embryonal features compelling the utmost care while passing through phases of temporary or inherited incapacity.

Whether or not a child shall become a vigorous adult depends almost solely upon its nutrition in the earlier months of its life. Other factors do enter into the problem, but digestion and assimilation stand immeasurably at the head. If the food be lacking in certain essential particulars, digestion cannot take place without discomfort or pain, and thereby otherwise perfect hygienic conditions are made of small efficacy. Hence the exceedingly frail and vulnerable life is assailed in such fashion that small chance remains for it to acquire the necessary vitality or resistance to enable it to withstand the onslaughts of disease to which it is unceasingly exposed from birth to exit. The child must be so fed as not only to escape the immediate discomforts of acute indigestion, diarrhœas, etc., but the remote dangers of nutritional diseases, rickets, marasmus, scurvy, and the degenerative disorders.

The digestive powers of the infant are designed chiefly to accept animal food. It is not till later, perhaps the fourth or sixth month, that starches can be assimilated, nor till the slow, gradual development of the various tissues and organs (so much less rapid in the human young than in animals), that the higher degrees of differentiation and elaboration are attained which distinguish man. The use of predigested starches as diluents in substitute feeding, as recommended by Chapin, is another matter; it serves a valuable purpose.

The process of the eruption of the teeth is the guide in great measure of this progress. It is obvious that food which requires minute mechanical subdivision should not be used until there is provided the necessary tearing and grinding machinery. Wherefore it is plain that only fluids are suitable for the infant till the growth of the teeth is well established. The size of the stomach at birth is so small that the amount of food taken at each feeding must be in proportion. If too much is given at a time to overfill this organ the excess is either regurgitated in a natural unloading, or it remains to vex and distress the intestines, producing more or less discomfort or illness. Again, in infants, so simple is the character of the mucous surfaces of the stomach and intestines, and their glandular secretions, that only the least complex and best adapted food can be safely or continuously accepted.

If other and less suitable substances are ingested, it is a question rather as to how little disturbance they may cause, than whether hurtfulness may be escaped

or no. Starvation does not mean that a child fails to get enough food, but the right kind of food, in the right condition, and in proper amounts, and at suitable intervals. An infant, or even an older child, would starve in the abundance of a well-filled provision shop, fully stocked for the feasting season of Christmas, if left to its own devices and selection. Many children, and even youths, do die from this precise cause in families abundantly able and willing to provide plentifully of all the essential articles of diet, but who, through ignorance or carelessness, fail to have this food put into such form as fits it to their wants. Especially is this true if the digestive capacity becomes impaired through whatsoever causes. There are all the chemical elements needed for human food in the ordinary dinner of a healthy laboring man, but it would be cruel to limit his baby to a happy-go-lucky selection from its component parts. Yet, in great measure, this is constantly done. When those of us who have opportunity to see just how this dinner is prepared, how pitifully ignorant the ordinary housewife is revealed to be in the rudiments of the cooking art, the only wonder is that so many babies survive to become in turn bread-winners like unto their fathers, and to resemble them in size, shape, and digestive capacity.

I am often led to the conclusion that one of the most constant sources of infant mortality is the imbecile pride, so common among fathers of high or low degree, in the capacity of their children to "eat anything on the table," just as they do themselves. In our everyday practice, we physicians meet with this as a cause of, at the least computation, one-half of the cases of illness among little children. In the nursery, influenced by chance counsel of ignorant, unthinking or conceited folk, are made, of much the same materials, future heroes or whining invalids.

One point of greatest importance, constantly neglected, should never be lost sight of. The *sine qua non* of digestive competence, in young or old, is *deliberation in the act of eating*. Unless full insalivation is secured, along with complete mastication of the solid matter, there must follow various forms and degrees of digestive derangement. Children, especially older ones, frequently bolt their food, thus laying the foundation of endless future discomforts. Habits formed in the plastic stage are despotic; they safeguard or they endanger health. In the nursery these habits must be initiated aright. Milk is a solid in the stomach and should be *eaten, not drunk*. It is best to teach the older child to take milk from a spoon and slowly. The use of nipples with a wide opening permitting a flood to rush into the stomach is a fertile cause of dyspepsias. Impatient nurses or mothers cause more troubles than the whole profession of medicine in a lifetime can cure.

J. MADISON TAYLOR.

Cyclopædia of Current literature.

ANTITOXIN COMBINATIONS, THE RELATION OF TOXIN TO.

As the result of experiments with cobra venom and antitoxin, the author comes to the following conclusions: By treating cobra hemolysin with dilute hydrochloric acid at moderate temperatures, it may be converted into a modification which no longer possesses the faculty of combining with the antitoxin obtained by the injection of genuine cobra venom, though it may still combine with lecithin to form a lecithid. On neutralization of the acid the modification may return to its original form. This modification of the poison molecule also takes place when it is combined with the antitoxin. Consequently the addition of hydrochloric acid causes a dissociation of the originally stable toxin-antitoxin combination. If at the same time there are suitable quantities of lecithin present, the toxin becomes free as a lecithid and thereby permanently loses the capacity of reacting with the antitoxin. In such solutions, on neutralization of the acid the poison is found in active form in addition to the antitoxin. Even after the lapse of some time, it is possible to recover in this way the poison as lecithid from neutral or over-neutralized mixtures of toxin and antitoxin. The quantitative recovery of the genuine poison may be simply effected by making use of the thermostability of the poison modification. By heating the acidified toxin-antitoxin mixture, the separated antitoxin is destroyed, and, after neutralization with alkali, the total amount of poison, with its specific properties, may be demonstrated in the solution. Mor-

genroth (British Medical Journal, December 16, 1905).

APPENDECTOMY; MODIFIED METHOD.

In a contribution on resection of the appendix, the writer describes a plan of external incision which, he holds, causes very little injury, and is as good a preventive of ventral hernia as the method of superimposed rows of suture. The skin incision commences at McBurney's point and is carried inwards and downwards towards the middle of the symphysis, over a distance of about 8 centimeters. The exposed portion of the aponeurosis of the external oblique and from one-third to one-half of the sheath of the rectus having been divided, the latter muscle is set free by blunt dissection in the direction of the wound, and drawn over towards the median line. After division of the tendinous portion of the internal oblique and transversalis muscles and the transversalis fascia, a small opening not more than four centimeters in length, is made in the peritoneum. The advantages claimed for this incision are these: The peritoneal opening lies behind the replaced rectus, and very little muscular tissue is divided. In closing the external wound only two rows of sutures are required; one for the peritoneum, the second for all the other layers of the abdominal wall taken together. When exposure and separation of the appendix are hindered by adhesions, the incision can be extended to either end. The author directs attention to two points which might be found useful in difficult cases of appendectomy. In a case of adherent appendix the anterior longi-

tudinal band, it is stated, is drawn over in the direction of the displaced and fixed process, so that this band, when convex along its inner margin, indicates a retrocaecal position of the appendix, and when convex along its outer margin an inner or pelvic position. If an adherent appendix be at first exposed near its attachment to the cæcum, and divided between two ligatures, and then dissected out from its proximal to its distal end, the operation will be rendered much easier than that in which separation of the process is the preliminary step. Kölliker (*Zentralblatt für Chirurgie*, No. 41, 1905; *British Medical Journal*, January 20, 1906).

ARTERIOSCLEROSIS: TREATMENT.

The author believes that the most potent disease in the production of arterial degeneration is syphilis. Typhoid fever plays a considerable part in the induction of the disease, as do acute rheumatism, diphtheria, septicæmia, influenza, malaria, etc. The writer has for some time suspected the toxin of the colon bacillus as being an important factor; examination of the blood of arteriosclerosis shows that in 55 per cent. of the cases it gave complete agglutination with the colon bacillus, as compared with only 20 per cent. with the blood from persons free from arteriosclerosis.

Among mineral poisons, lead must be mentioned as having a direct action on the blood vessels and kidneys. High arterial tension being the precursor of arteriosclerosis, all pressor agents, such as coffee, tea, digitalis, must be looked on as playing a part in the causation of the disease. Although alcohol is credited as one of the most potent factors in arteriosclerosis, it really has but little to do with it, except as it leads to the

production of gout. The excessive use of nitrogenous foods kills more adult men than alcohol—the mischief being due to the waste products. The disease is essentially one of late adult life, and differs from senile vascular degeneration; it is much more common in men than in women, they suffering more frequently from syphilis, having more mental worry, and being subjected to more physical strain. Repeated pregnancies often lead to the disease. Long-continued exposure to cold often leads to degenerative changes in the peripheral vessels. American men, as a race, are especially prone to the disease.

The diet is of the greatest importance; it should be of low proteid value, as adults perform their muscular work with carbo-hydrates. How to eat is as important as what to eat. One should never eat until he has an appetite, then eat slowly, masticate thoroughly, and never eat to repletion. Exercise is of the greatest importance; so long as the exercise is not excessive for the individual, the more one gets out of doors the better. A course of baths often does much good. The author rarely prescribes digestive agents or hypnotics; failure to eat or sleep requires treatment, not palliation. The thyroid preparations are extremely useful, and iodine is often even more valuable. The latter is best given as tincture or syrup of iodine. Adrenalin and the chlorides are pressor agents, and should never be given alone. Nitrites are useful in emergencies, but their effects are too evanescent for continued use. The benzoates frequently give excellent results, especially where the kidneys are involved. Sir J. Barr (*British Medical Journal*, January 20, 1906).

ARTERIOSCLEROSIS: TREATMENT

The writer considers that iodine is not indicated in this condition, since its only effect is to lessen the tension on the vascular walls. A rational treatment must be one which acts favorably on the metabolism of the vessel walls, strengthens the vasomotor system, and lessens the blood pressure. Trunecek's serum has given excellent results, which are due to the action of the salts contained in it; the dyspnoea becomes less, owing to the increased alkalinity of the blood, and the sodium salts act directly upon the heart and the vascular epithelium. The use of this serum, however, is painful and the daily injections are wearing upon both physician and patient; as a prophylactic it has the disadvantage that the patient objects to a painful and tedious treatment for an incipient disease. It has been found that the serum acts as well when given by mouth as when administered subcutaneously, consequently the author advises the use of antisclerosin, which consists of the salts contained in the serum. The first group of twenty-five patients treated by the author with this compound included advanced cases. In many the vessels were distinctly hardened and elongated. The observations extended over about one year. In nineteen cases the subjective and objective symptoms were relieved for different periods or disappeared for months; in the six others the symptoms were relieved slowly, disappeared for a short time only, and recurred when the drug was stopped.

The author concludes that the chief field for antisclerosin is prophylaxis at the earliest appearance of the symptoms which indicate arteriosclerosis. Among these may be included a peculiar indefinable sensation in the præcor-

dium, slight dyspnoea, especially on walking, dizziness, temporal throbbing, going to sleep of the extremities, tinnitus, visual disturbances without ocular lesion, and indigestion. The patient's age, somewhat tense and hard pulse, plethora, gout, or rheumatism substantiate the diagnosis. Such symptoms may be removed by the use of antisclerosin. The drug should be given until the symptoms disappear, and intermitted for two or three weeks before resuming. If the symptoms recur, a renewal of the treatment is indicated. No unpleasant effects have been observed from the administration of this substance. Manfred Fränkel (*Wiener klinische Rundschau*, Nos. 29 and 30, 1905; *American Journal of Medical Sciences*, January, 1906).

CAMPHOR, TOXIC ACTION OF.

The writer reports a death following the injection of camphor in an eclamptic patient, and discusses the limits of the therapeutic dosage. Part of the camphor enters into a harmless combination with glycuronic acid in the body, and part is exhaled through the lungs. The fraction remaining is what exerts the therapeutic action on the vascular system. From his research, the writer concludes that the fatal dose is about 1 gram to the pound of body weight of a healthy human being or animal. The toxic dose is a third less. These proportions are less in persons who at the moment of the injection are not able to form or have not already on hand the amount of glycuronic acid necessary to combine with the camphor to form the harmless campho-glycuronic compound. As glycuronic acid is a product of the oxidation of grape sugar, when there is a lack of either grape sugar or of oxygen there

will be correspondingly less glycuronic acid, and in such case a smaller proportion of camphor will have a toxic action. This assumption was confirmed by his experiences with twenty out of thirty-five rabbits on which he experimented. Healthy rabbits bore intravenous injection of .08 gram of camphor without apparent injury, but this amount proved rapidly fatal if they had been fasting, and thus deprived of grape sugar, for from six to nine days previously. Similar experiments in which the animals were deprived of oxygen, instead of the grape sugar, proved equally fatal when the camphor was injected, the animals succumbing after injection of .02 or .04 grams of camphor, from one-fourth to one-half the previously tolerated dose. These findings were corroborated by the effect of glycuronic acid injected at the same time with the camphor. Animals thus injected showed little, if any, disturbances and were soon as lively as ever, while the controls all died. These experiences warn physicians to be cautious in administering camphor to patients whose carbohydrate metabolism is defective, such as cachectic persons or those in inanition, or in severe cases of diabetes or chloral poisoning. On the other hand, great caution is necessary in administering camphor to persons with a deficient supply of oxygen, as in carbon dioxide intoxication, in severe cardiac defects, in advanced bilateral pneumonia, in severe sepsis and to eclamptics. In case of eclampsia and states of psychic excitement, camphor is further contraindicated on account of the fact that its base of action is in the central nervous system. K. Happich (*Centralblatt f. Gynäkologie*, December 30, 1905).

CANCER, INFLUENCE OF LIGHT IN THE PRODUCTION OF.

The skin of the human body, in a certain proportion of individuals, and in those only, is hypersensitive to the action of the actinic rays of the spectrum. This hypersensitiveness may be exhibited in the production of either hyperæmia, pigmentation, telangiectasis, atrophy, hyperkeratosis, or cancerosis of the skin; or by all, at times, in a determined order of succession. In the form of childhood cancerosis known as xeroderma pigmentosum, the pigmentation, telangiectasis, atrophy, hyperkeratosis, and cancerosis of the skin resulting from exposure to rays of light are exhibited early in life, instances of this disorder being exceedingly rare. Pigmentation, telangiectasis, atrophy, hyperkeratosis, and cancerosis of the skin occur in adults much more frequently than in childhood, reaction to the play of actinic rays of light upon the surface being chiefly determined after the middle periods of life have been reached. Physiological pigmentation of the skin in the colored races seems to furnish relative immunity against cancerosis of that organ. The colored races apparently suffer less than the whites from cancer of other organs than the skin. This relative immunity may be due to the protection from actinic rays of light furnished by the pigment of the integument. J. N. Hyde (*American Journal Medical Sciences*, January, 1906).

CANCER OF THE BREAST.

It must be borne in mind that extensive general lesions may be associated with a small latent carcinoma. In two-thirds of the cases both breasts are involved. Direct extension through the chest-walls to the pleura, with secondary involvement of the lymphatic glands,

more rarely disease of the lung itself, is one of the most common of the sequelæ of carcinoma of the breast. Pleurisy, with effusion, may come on insidiously with the only symptom an increasing shortness of breath. In other instances, there are severe pains, with signs of involvement of the pleura itself by extension. It is not always easy to say whether the pleurisy is of a cancerous nature or not. Glandular metastases within the thorax are very common and associated with all the distressing pressure symptoms of tumor. There may be no local recurrence and no physical signs, though, as a rule, the mediastinal tissues are involved and there is flatness on percussion, and not infrequently disease of the sternum itself. The glands above the clavicle may be enlarged. Even a mediastinal growth, with penetration of the manubrium, may undergo involution. Carcinoma of the lungs secondary to that of the breast is very infrequent. The peritonæum may be involved by direct extension, and recurring carcinomatous ascites is not uncommon. The breast tumor may be latent in these cases, or concealed by the patient. Metastasis to the liver is more frequent than to any other organ, but it is more commonly of post-mortem than of clinical interest. The liver becomes enlarged, irregular, nodular, and the patient is deeply jaundiced, with all the features of secondary carcinoma. Cerebral symptoms may be caused either by metastasis to the bones of the skull or to the brain itself. The most common and the most serious, as entailing a maximum of suffering, are the lesions of the spine. Such metastases occur with great frequency, and they are more common in the atrophic form of scirrhus of the breast. Kyphosis is rare, and any

part of the spine may be involved. The secondary growths may become sclerotic and shrink with a diminution in the pressure symptoms. The symptoms usually occur in two stages. In the first or neuralgic stage, indefinite pains in the back begin to appear from two months to two years after the removal of the cancer. There is general anæsthesia, and the patients are often thought to be neurasthenic. An attack of shingles is a distressing and not uncommon complication of this stage. The pains gradually become more severe and may occur in the most agonizing crisis. In most cases the second or paralytic stage is reached, a pressure paraplegia, usually of the spastic type. Cramps in the muscles are common, and finally there is the well-known picture of paraplegia dolorosa. Spontaneous involution of the secondary tumors is one of the most remarkable features of carcinoma. Metastases to the bones are not infrequent. The bones of the hands and feet are often involved. And, finally, the author urges that in the hopeless cases morphine, enough morphine, affords the only possible relief. W. Osler (*British Medical Journal*, January 6, 1906).

CARCINOMA OF THE BREAST, SPREAD OF.

The rapidity with which cancer spreads into the lymphatics depends to a large extent on the position of the primary growth. When that is situated within a hollow muscular organ, such as the urinary bladder or gall bladder, the pause may be a long one; but when the growth is in the mammary gland, in the tongue, or in the pharynx, the writer believes that there is hardly any interval between the onset of the growth and its spread into the neighboring lymphatics. In cancer of the breast he has found

that the tumors in the lymph glands soon grow larger than the tumor from which they spring even though the presence of the growths in the lymph vessels cannot be seen during the operation, except occasionally, in very advanced cases. The use of the microscope is advised in all cases. The author considers the duct carcinoma to be as malignant as any other variety. He also thinks it probable that cancer may cross in the lymph channels from one breast to the other, and cites one instance of carcinoma spreading against the lymph stream. C. B. Lockwood (British Medical Journal, January 27, 1906).

CANCER, TRYPSIN AND.

Experiments were undertaken by the author to determine the action of trypsin upon the living cells of a carcinoma. To this end mice suffering from Jensen's mouse tumor were injected with suitable amounts of trypsin. On killing the mice every single tumor cell was found to be in degeneration. The somatic tissues (leucocytes and connective tissue stroma cells) were quite normal. It appears to be certain that the action of trypsin upon the cancer cell is to pull down the cancer albumin—a living substance—and the cancer ferment (malignin) produced by this. In addition to their confirmation of the conclusion that trypsin is the substance which will destroy the cancer cell with ease and without danger to the individual, these experiments go far to prove that in its nature cancer is neither germinal nor somatic, for trypsin, the architect of the soma, does not in life destroy the soma or sexual individual or its sexual products, whilst its action is direct and utterly ruinous upon trophoblast or a sexual generation. J.

Beard (British Medical Journal, January 20, 1906).

CHLOROFORM POISONING.

Chloroform poisoning, in common with a number of closely-related conditions characterized by intoxication and marked changes in the liver (acute yellow atrophy, phosphorus poisoning, certain septicæmias, and some cases of puerperal eclampsia), probably all depend on the effect on the liver of poisons that destroy the synthetic functions of the liver cells without destroying their autolytic ferment. Autolysis of the liver cells follows, with resulting alterations in the liver structure, and the appearance of products of autolysis (amido acids and various other organic acids) in the blood and urine. It is probable that in chloroform and in phosphorus poisoning, at least, it is the oxidizing enzymes that are particularly involved, accounting for the marked fatty changes that are present in these condition. H. G. Wells (Journal American Medical Association, February 3, 1906.)

CLEFT PALATE.

All surgeons are agreed that the cleft should be completely closed during the first few years of life, but the point yet to be decided is whether it is better to operate during early infancy or during early childhood. The author prefers, as a general rule, to postpone operating upon the palate until the child is between two and three years of age, and then at one operation completely close the cleft. R. W. Murray (British Medical Journal, February 3, 1906.)

CONGENITAL COXA VARA.

Congenital coxa vara is usually associated with defects or deformities of other parts, commonly with the defect

of the femur and with deformities of the lower limbs. It may be intrauterine in its strictest sense, it may be the result of an intrauterine infection, or it may be combined with congenital rachitic deformities. At least some of the strictly intrauterine cases are associated with peculiar positions of the thighs in utero, that is, adduction of the thigh in question. This peculiar position of the joint might explain a fixed deformity in the later-developing hip joint, if it may be assumed that the proximal end retains its relative position to the acetabulum after birth. H. O. Feiss (*Journal American Medical Association*, February 24, 1906).

CYSTITIS, POST-OPERATIVE, IN WOMEN.

The chief points suggested by the author in the prophylaxis of post-operative cystitis in women are as follows: Urine retention may be avoided by the use of one or several of the following methods: Filling the bladder with sterile water at the conclusion of the operation, injecting boroglycerin solution into the full bladder, having the patients sit up out of bed as early as the nature of the operation will allow. In the operation, the bladder should be carefully handled and its denuded surface covered as well as possible before the close. The introduction of germs from the urethra should be prevented as far as possible, by using a double catheter such as devised by Rosenstein. Internally, urotropin, helmitol, etc., may be given. Above all, wherever catheterization has to be continued for some time, the bladder should be irrigated each time with one to two pints of boric acid solution, and such irrigations continued with each catheterization, not merely until the first spontaneous urination, but until there is no longer any

residual urine. F. J. Taussig (*Surgery, Gynecology and Obstetrics*, February, 1906).

DIABETES, PANCREAS IN.

The pancreas may show changes in mild as well as in severe forms of diabetes. The writer considers pancreatic diabetes as those cases in which a diminished absorption of nourishment can be proven and those in which pancreatic colics can be shown to exist before or during the course of the disease. An especial point showing the pancreas to be affected is the absence of polyuria after a large ingestion of water. Cases of a mild character associated with pancreatic colics, would, if they were severe, be accompanied by coma. Pathologically, there is an extension of a duodenal catarrh to the pancreatic ducts, which subsequently leads to calculus formation, circumscribed necrosis and atrophy of the pancreas. F. Hirschfeld (*Berliner klinische Wochenschrift*, December 25, 1905).

DIABETES INSIPIDUS.

The constancy of constipation in the previous history of certain patients with diabetes insipidus, and the remarkable subsidence of the polyuria when podophyllin was given, has impressed the author. Defective skin-functioning was another constant feature of the clinical picture. The artificial hyperæmia induced by the drug in the intestines diverts the blood from the congested kidneys and gives the atonic kidney vessels a chance to recover their tonus. Sweat baths may have the same kind of revulsive effect.

Treatment of the cases of polyuria accompanied by diminished cutaneous function and constipation, should be directed to reducing the congestion in

the kidneys, resulting from loss of tone by the capillaries of the organ. Reduction of the intake of fluids will help, as also laxatives and diaphoretics. The writer prescribes 1 gram (about 15 grains) of podophyllin in forty pills, ordering one or two pills a day, with physical measures to promote action of the skin, warm clothing, a southern climate, etc. R. Schmidt (Wiener klinische Wochenschrift, Bd. xviii, Nu. 43; Journal American Medical Association, February 17, 1906).

DIPHTHERIA, HEART FAILURE IN.

To prevent heart failure in diphtheria, the writer advises the use of antitoxin at the earliest possible moment, and in large doses; 4,000 to 6,000 units should be the minimum dose, while in severe cases 12,000 to 24,000 units. The point next in importance to antitoxin is *rest*, both physical and mental. In the vast majority of the cases, after the first three weeks have passed, death from heart failure will occur only as the result of some complication of strain. A slow, irregular pulse is of bad prognostic significance. The patient should be kept with the head low, and disturbed as little as possible. Great care should be exercised in spraying the throat. Another danger lies in the strain produced by vomiting. Where heart signs supervene, prolonged rest in bed is necessary, possibly for two months or longer. The author has never known digitalis or strychnine to save a case of heart failure following diphtheria. Alcohol lessens the efficiency of the heart. Good results have been observed from the use of belladonna in small doses. C. Bolton (Lancet, February 3, 1906).

EARACHE.

The writer advises that as soon as earache begins the patient should be kept quiet, put to bed, and placed on a fluid diet, and in other ways treated as one would treat a patient with a high fever. The bowels should be kept open, and a single dose of morphine may be given to insure rest and comfort. Dry heat or else an ice-bag can be applied to the ear. The former is more acceptable to most patients. Every three hours the ear should be gently irrigated with a hot solution of bichloride 1 to 5,000, after which a few drops of a 12 per cent. solution of carbo-glycerin may be instilled. Under no consideration should a person be allowed to suffer pain longer than twenty-four hours. If the pain continues and the drumhead is inflamed and distended, palliative measures are worse than useless, and any attempt to abort the inflammation by means other than surgical is dangerous, and valuable time is lost in so doing. A bulging drumhead should be treated in the same way as a septic formation in any other place. It should be freely incised, rather than simply punctured or allowed to break. A. Bardes (Medical Record, January 20, 1906).

ECLAMPSIA, ACUTE YELLOW ATROPHY OF THE LIVER FOLLOWING.

The writer considers that both eclampsia and acute atrophy of the liver are due to a toxæmia, which probably produces the variable symptoms and morbid changes on account of the relatively different resisting powers of the organs. Thus the eclamptic symptoms predominate, when on account of inherent weakness the nervous system is relatively most injured, while acute atrophy occurs when the liver is not strong enough to dispose of the toxins,

which gradually destroy it, if the patient does not in the meantime succumb to the eclampsia. Such cases, the author states, may therefore be divided into three stages: (1) toxæmia; (2) eclampsia; (3) acute atrophy of the liver, though the patient usually recovers or dies before this last stage is reached.

(1) A toxæmia is always the primary condition, but it may be severe enough only to produce the early symptoms—headache, lassitude, disturbances of vision, and a diminished excretion of urine and urea, with possible œdema and albuminuria. In a few cases this stage has been followed by coma and death, without convulsions, the pathological findings being the same as in eclampsia.

(2) In eclampsia (the second stage) the toxæmia has become severe enough to interfere greatly with the functions of the liver and kidneys, and to produce the nervous irritation, made evident by the convulsions and coma. The severer poisoning here produces grave lesions in various organs, and often causes death.

(3) In acute atrophy of the liver the changes have progressed still further, and have practically destroyed this organ. There is added to the convulsions (which, however, do not necessarily occur) a deepening coma, an increasing jaundice, vomiting, and often purgings of blood, followed practically always by death. Here the urinary secretion may increase, but on account of the practical destruction of the liver the patient will nevertheless succumb. L. T. Royster and C. R. Grandy (Medical Record, January 6, 1906).

ECTOPIC GESTATION.

In many fatal cases in which death is said to be due to so-called heart disease and other causes, the writer believes in reality it is due to internal

hæmorrhage from ectopic gestation. In cases of doubtful diagnosis a small vaginal incision may be made through the posterior vaginal vault, when the escape of free blood will verify the diagnosis.

The treatment is invariably surgical. As little of the anæsthetic should be used as possible, and stimulation should be withheld until the bleeding point is secured. When the abdominal incision is made no attention should be paid to the enormous quantity of blood that usually gushes forth, but the surgeon should place his hand directly on the ruptured tube and clamp the bleeding parts. After this, vigorous stimulation may be employed. The blood clots should be taken out rapidly and the abdominal cavity flushed with a large quantity of sterile saline solution. A quantity of this fluid may be allowed to remain in the pelvic cavity. Drainage is rarely necessary; in fact, it is detrimental. In all cases in which a hæmatocele has formed, a vaginal incision may be made with the evacuation of the clots which lie in large quantities in the pelvic cavity; but the patient should be prepared for the abdominal operation, should it prove necessary, because of the recurrence of hæmorrhage. W. H. Randle (American Medicine, January 20, 1906).

ECZEMA, SUDDEN DEATH IN THE COURSE OF.

The mystery of the sudden deaths of children with eczema of the scalp and face is discussed by the writer. In one such case the autopsy revealed an unsuspected streptococcus focus in one lung, the action at a distance of these germs having induced slight endocarditis and pleural effusion. In another case an infant with eczema exhibited

attacks of heart weakness, possibly from a similar action of the germs on the heart muscle. Another child of eleven months was under care for recurring eczema of the scalp and face. The child was brought to the author, after two months' absence, on account of a new patch on the cheek, and he was impressed with the dull look in the eyes, but nothing abnormal could be detected in lungs or heart. The cervical glands were swollen. A salve of ichthyol and zinc oxide was ordered. The child seemed unusually quiet and was found dead the second morning. Staphylococci were discovered in the cutaneous lesions and in the internal organs. Their numbers were not large, but it is possible that the eczema may have generated toxins, similarly to extensive burns, which may have induced an actual toxic form of staphylococcus mycosis. This assumption was confirmed by a number of experiments on animals. Infection with the staphylococcus alone did not cause, by any means, such severe symptoms as when the staphylococcus infection was supplemented by a cutaneous lesion, such as a croton-oil blister. The heart seemed to suffer particularly in these cases. The researches reported emphasize the importance of careful oversight of the heart action in cases of extensive eczema. Possibly the blood pressure might afford useful information. J. Bernheim-Karrer (*Jahrbuch für Kinderheilkunde*, Bd. lxii, Nu. 6; *Journal American Medical Association*, February 10, 1906).

FAUCIAL TONSIL, EXTIRPATION OF THE.

The tonsil, in the sense in which that term is generally applied, really is a neoplasm, and not an organ with a definite function. In the normal condition

there apparently is no tonsil present, though in such normal cases there exists an aggregation of from two to eighteen lymph follicles. When this mass of follicles develops into a larger mass, with the formation of crypts, etc., there is present what is generally understood to be a tonsil, and this is a diseased structure, resulting from disease. Such tonsils are detrimental to the patient's health. Being diseased and causing disease, they should be removed entirely, and not in part, as otherwise the object sought is not obtained. F. C. Todd (*St. Paul Medical Journal*, December, 1905).

FRACTURES, LIMITATIONS OF REST IN THE TREATMENT OF.

The author is convinced that fractures are immobilized for excessive periods and that this is the cause of such frequent subsequent stiffness and disability. In the first place, the author recommends removable splints, in order that the site of fracture may be inspected every day, and massage, active and passive motion may be instituted. After the swelling has been reduced, passive motion should be begun about the fourth to the tenth day, on the fingers, foot or toes. Of course, the fractured limb is meanwhile supported by the splints. After the second week of passive motion, complete massage and voluntary motion should be begun for from one-quarter to one hour daily. The flexion of the limb is important. The advantages of these methods are that absorption is facilitated, pain and muscular spasms are relieved, and no adhesions in the neighboring joint or tendons are allowed to form. R. M. Funkhauser (*Journal of the Missouri State Medical Association*, November, 1905).

GLYCOSURIA AND ALBUMINURIA, SIGNIFICANCE OF SLIGHT.

The writer thinks it may be said that the presence of albumin in any appreciable amount in the urine is not normal or physiological, but that it does not necessarily imply that the existing disturbance of function is permanent or progressive. At the same time, it cannot be denied that a certain number of cases which at first are rightly placed in the above category, do later on show signs of definite organic kidney disease.

The presence of sugar in the urine in any appreciable quantity is abnormal, and in the young it is of serious import, and if persistent, it is likely to lead on to diabetes. In people past middle life, and especially in those of gouty type, it is of less consequence and usually yields to treatment more or less speedily, to recur, however, in some cases, under conditions similar to those under which it first appeared.

The presence of both albumin and of sugar in the urine indicates serious disturbance in the metabolic processes, calling for relief to the nervous strain which the patient may have been undergoing, and an adjustment as far as can be of his environment, but under favorable conditions these patients may continue in at least fair average health for many years. R. W. Burnet (*British Medical Journal*, January 20, 1906).

HÆMORRHAGE, POSTPARTUM, TREATMENT OF.

As soon as the uterus has been emptied, ergot should be given by mouth, or, if the hæmorrhage is alarming, by hypodermic injection, and massage of the uterus should be kept up vigorously. Usually a hot vaginal douche of normal salt or weak lysol solution, given at a temperature of 116° F., will be suffi-

cient to check the bleeding. If not, the douche nozzle is carried up into the uterus and a uterine douche of the same solution at the same temperature is given. Hæmorrhage continuing, a hot uterine douche of a 2 per cent. solution of acetic acid should be given. For this purpose the writer carries in his outfit a four-ounce bottle of the Squibb 80 per cent. acetic acid, two ounces of which added to three quarts of water will make a solution of requisite strength. If acetic acid fails, and there have been very few instances in the writer's experience in which it has failed, the uterus should be tightly tamponed with plain sterile or a 5 per cent. iodoform gauze. If one is unprepared to pack the uterus, a piece of ice may be carried up and rubbed about in the cavity of the uterus, a procedure which is occasionally followed by firm uterine contraction. G. L. Brodhead (*New York Medical Journal*, January 13, 1906).

HEAD INJURIES.

If there is extensive injury to the skull, particularly in the parieto-temporal region, whether it be fracture or fissure; if there is evidence of splintering of the inner table, or of the presence of a foreign body, or of persisting intracranial hæmorrhage, operative interference is warranted at the earliest possible moment. (X-ray examinations and lumbar puncture are valuable diagnostic aids.) In comminuted fracture of the skull the surgeon must decide whether or not the danger of infection is increased by surgical procedures. Surgical technique and surgical methods should be developed to such a degree that the brain and skull will be handled with as much skill as are the abdominal viscera. In all cases, but especially in those in

which external injury cannot be taken to be the determining factor, the question of surgical interference must be decided on purely neurological lines.

It is useless to continue the discussion of the differentiation between concussion, contusion, and compression. It is much more important to decide whether the brain has or has not been tangibly injured; and if injured, whether the site of the injury is on or near the surface; in short, whether it is accessible or not. If inaccessible, simple trephining may be resorted to, provided there are symptoms of increasing intracranial pressure which cannot be relieved by lumbar puncture or other simpler methods. Even if the injury is in an inaccessible region, it is best to adopt a conservative attitude and to determine whether surgical skill may be relied upon rather than the reparative powers of nature. Hæmorrhages are often absorbed, and many inflammatory processes recede more or less spontaneously.

In determining the gravity of brain injury, disturbances of cardiac and respiratory action, of vesical and rectal control, and the condition of consciousness are the most important symptoms. They are the manifestations of increasing intracranial pressure and of other serious injury. Recovery from coma, however slight, after twenty-four, forty-eight or seventy-two hours, is encouraging; deepening coma is of grave significance. The behavior of the pulmonary reflexes is of no special value in deciding the question of operative interference. If the symptoms point to distinct focal lesion, although years may have elapsed since the initial injury, surgical measures must be adopted, provided only that the lesion be accessible. If the external injury points to one site and the symptoms to another, both

should be considered; the site of external injury attacked first, but an effort should be made to reach the other as well. B. Sachs (Boston Medical and Surgical Journal, February 15, 1906).

HEART DISEASE, OPIUM IN.

According to the author, there are sound clinical reasons for the belief that opium is a tonic in cardiac debility. In cases of weak heart after exhausting disease, after prolonged mental and physical pain, and without organic lesion of valves or muscle, opium is of advantage. In cases of failing compensation, with the onset of stasis, the heart is supported, especially if the unfortunate possessor is an impressionable subject who frets and fumes because of the ordinary irritations of life. In the gradual engorgements from myocardial dilatation, in chronic parenchymatous nephritis, and in arteriosclerosis it is of value. If the patient is hypochondriacal or hypersensitive, the second daily dose of opium invites sleep and induces a feeling of well-being. The dyspnoea of myocarditis is relieved or prevented by continuous small doses of morphine for a very long time. The author has seen a form or stage of myocarditis with restlessness, Cheyne-Stokes breathing, dyspnoea, and rapid pulse helped by continuous doses of opium. The tachycardia of Graves's disease is relieved, and in three of his cases it appeared to contribute to the cure of the disease. In nervous and irritable patients opium is almost necessary to induce comfort. J. H. Musser (American Journal Medical Sciences, January, 1906).

IODIDES, ACTION OF, ON THE CIRCULATION.

After much personal experimentation and clinical research, the writer con-

cludes in regard to iodized albuminoids, such as iodized peptone, that they spoil readily and that their use should be under stricter surveillance than at present. Their action on the vascular system declines rapidly in intensity as the preparations grow older, but not their poisonous properties. Their effect on the nutrition and on the nervous system has been injurious in many instances, but the results have generally been ascribed to the affection for which they were being taken. Iodine and the iodides, on one hand, and the extract of the fresh thyroid gland and the iodized albuminoids, on the other hand, have an opposite action on the heart and the extracardiac nervous apparatus. The former induce hypertension, the latter hypotension, in the medicinal dosage. In toxic doses both induce hypotension by their depressing action on the myocardium and by paralysis of the nervous system. The iodides cannot be considered heart drugs, in the proper sense of the word, their action on the circulation, in therapeutic dosage, being secondary and subordinate to their action on the lymphatic system and on the blood, as the writer relates in detail. Pouchet (*Bulletin de l'Académie de Médecine*, Paris, December 26, 1905; *Journal American Medical Association*, February 3, 1906).

LANDRY'S PARALYSIS.

Landry's paralysis is considered by the writer to be due to a toxæmia, specially involving the anterior spinal horns, and he thinks it probable that in very virulent intoxication the peripheral nerves may also be implicated in a secondary way, and a multiple neuritic condition coexist. These are the cases that, perhaps, give most trouble in their diagnosis. The very high mortality of

this disease, however, is in striking contrast with those disorders, multiple neuritis and anterior poliomyelitis, with which it is most liable to be confounded. In the case reported by the author, the attack seemed to follow vaccination; it was preceded by chilly sensations, fever, sweatings, and vertigo, and the rapidly ascending paralysis within a week from its first appearance had involved all four extremities, the muscles of speech and deglutition, and the ocular muscles. There was also cardiac irregularity and dyspnœa, but there was no pain or nerve tenderness, and no fever after the stage of onset. The patient slept well and took a fair amount of nourishment. The bulbar symptoms began to improve after two months, but recovery was not approximately complete until after two years, and the patient has not yet attained his former weight by thirty pounds. There is still a slight foot-drop, most marked on the right, and the knee jerks have not returned. In the treatment the best results seemed to follow the use of a simple solution of the glycerophosphate of iron with small doses of strychnine. R. McGregor (*American Medicine*, December 9, 1905).

LEUCOPLASIA, SYPHILITIC ORIGIN OF.

The evidence seems to point conclusively to the syphilitic or parasymphilitic origin of leucoplasia; that in some cases it is due to the hereditary disease, and that other causes, such as tobacco, are of secondary importance, and only act as accessory causes. An interesting point with regard to hereditary syphilis is the statement that congenital macroglossia, or "scrotal tongue," is a predisposing cause of leucoplasia. Macroglossia itself, like most other congenital deformities, is probably one of the

dystrophic stigmata of hereditary syphilis.

Another point worthy of consideration is the possible relation of lichen planus to leucoplasia. The lesions of lichen planus, when they occur on the mucous membrane of the mouth and tongue, may bear a remarkable resemblance to leucoplasia. Bénard remarks that, "although constituted objectively by a white keratosis, buccal lichen planus should not be included among the leukokeratoses; for if this term is to preserve provisionally a wide and open acceptance, the reservations formulated with regard to the lesions to which it is applicable are necessitated by the uncertainty of our knowledge concerning the relations which unite them. Lichen planus, a definite and essentially distinct dermatosis, should be kept away from this provisional group." However, according to Perrin, buccal lichen planus is capable of provoking leucoplasia, even in the parchmenty form. It may also be mentioned that lichen planus in general has by some been attributed to a syphilitic origin. This idea is no doubt, in the present state of knowledge, of a hypothetical and speculative nature, but it is more than possible that certain dermatoses of hitherto unknown or obscure etiology may trace their origin to syphilis, or at any rate to a syphilitic ancestry. C. F. Marshall (Treatment, January, 1906).

MAGNESIUM SALTS, INHIBITORY AND ANÆSTHETIC PROPERTIES OF.

In studying the action of various substances injected into the brain, the author found that magnesium produced paralysis rather than convulsions. This element, with its salts, invariably caused depression or inhibition of nervous and

muscular action. In a few seconds after the injection of a small dose of the sulphate or the chloride, respiration ceased and the animal would die without the struggle of asphyxia and without any sign of sensation, unless artificial respiration was practiced for a long time. When injected rapidly, 0.1 of magnesium sulphate is profoundly toxic, but as much as 1.5 of the salt, if injected slowly in the course of an hour, will occasion no untoward symptoms. Herein is the probable explanation of the fact that epsom salt, when taken in the ordinary way, produces no poisonous symptoms; some absorption doubtless occurs, but it occurs so slowly as to be harmless. Solutions of magnesium salts, applied directly to a nerve trunk, caused a complete block, abolishing conduction entirely. By means of subcutaneous injection of magnesium salts, complete general anæsthesia, with perfect relaxation of the muscles, but without impairment of the vital reflexes, was produced. The magnesium salts were injected into the subarachnoid space of the spinal cord, mostly by lumbar puncture. Monkeys were the animals experimented upon. The injection of magnesium sulphate, in a dose of about 0.06 per kilo of the animal's weight, caused within a minute or two complete anæsthesia and paralysis of the tail and hind legs. This discovery was put to practical use in twelve operations performed under the influence of intraspinal injection of magnesium sulphate. The highest dose employed was 0.2 per kilo, or fifteen drops of a 25 per cent. solution for each twenty pounds of body-weight. In the first eight cases some chloroform was used to supplement the effect, as the tentative doses of the salt were very small; but in the last four, the magnesium alone sufficed. The best time for

operation was found to be three or four hours after the spinal injection. As a precautionary measure, the Fell-O'Dwyer apparatus for artificial respiration should be on hand whenever this magnesium anæsthesia is employed. Finally, the writer reports the cure of a case of tetanus. After the employment of 115 c.c. of tetanus antitoxin without effect, the first injection of a solution of magnesium sulphate afforded great relief for thirty-six hours, and after a few more injections the patient was pronounced cured. S. J. Meltzer (Medical Record, December 16, 1905).

MIDDLE EAR, INDICATIONS FOR OPERATION IN CHRONIC SUPPURATIVE DISEASE OF.

There are certain indications which call for the performance of the radical mastoid operation without delay; there are others which make it strongly advisable. The larger proportion of cases of chronic otorrhœa do not show, at the time they present themselves for treatment, any of these indications. At the same time, the mere presence of a purulent discharge from the middle ear is a source of anxiety, though this may be tempered by the result of careful aural examination. In such cases the ordinary antiseptic treatment, with, if necessary, the rectification of an intranasal or pharyngeal condition, or in certain cases ossiculectomy, should be given a trial. If these measures do not effect a cessation of the discharge within a reasonable time, its continuance should then be taken as a strong indication for the radical proceeding, the indication being practically imperative in children. W. S. Syme (British Medical Journal, February 3, 1906).

MIGRAINE, CANNABIS INDICA IN.

The following treatment has been employed by the author with good results: He prescribes the drug in pills of the extract containing $\frac{1}{4}$ grain each, beginning with one pill at bed-time for thirty days. If beneficial, this dosage is continued; but if not, two pills are given in the evening and one in the morning. The treatment should be continued for a year. After this period the treatment is prescribed for one month at a time at intervals of varying duration. In the above doses no signs of intolerance or of becoming accustomed to the drug were noted. As an adjuvant the author advises daily hot douches at 100.4° to 104° for one to two minutes, later raised to 109.4° to 113°. The jet is applied only to the head and the nape of the neck. Cold douching of the feet may also be employed. In acute attacks the hot douche acts as a sedative when given in connection with rest in bed and application to the forehead of menthol, chloroform, and methyl salicylate, each 5 parts; in lanolin, 30 parts. This may be used alternately with applications of very hot, dry compresses to the head. The patient may be benefited by a sojourn at one of the various health resorts. G. Caron de la Carrière (La Presse Médicale, No. 57, 1905; American Journal Medical Sciences, January, 1906).

NARCOSIS, THEORY OF.

The following explanation of narcosis is advanced by the writer: The narcotizing substance enters into a loose physico-chemical combination with the vitally important lipoids of the cell, perhaps with the lecithin, and in so doing changes their normal relationship to the other cell constituents, through which an inhibition of the entire cell chemism

results. It also becomes evident that the narcosis immediately disappears as soon as the loose, reversible combination, dependent on the solution tension, breaks up. It follows further that substances chemically absolutely indifferent, as the volatile saturated hydrocarbons, can act as narcotics. That many narcotics induce not pure narcosis alone, but often show other distinct actions, as, for example, the occurrence of convulsions, which quite overshadow any narcosis present, is easily to be understood when one remembers that the narcotics may possess an affinity not only for the cell lipoids, but for other cell constituents as well, and through some union with these, concomitant effects quite different from narcosis may be induced. Hans Meyer (*Journal American Medical Association*, January 20, 1906).

NAUSEA AND VOMITING, POSTOPERATIVE.

As a rule, postoperative nausea and vomiting are less dependent on the anæsthetic than on other causes; of the predisposing causes, sex seems to be the most important, for, other things being equal, women are far more likely to suffer from these after-effects than are men. What is spoken of as a nervous disposition, is also a strong predisposing factor; in one whose nervous equilibrium is unsteady, the reflex after-effects are likely to be more severe and prolonged.

The amount of postoperative disturbance seems to bear a more or less definite relation to the nature of the operation, and the operations which are most liable to be followed by this disturbance are those on the uterus and its adnexa, and of these the operation which causes this disturbance most frequently seems to be dilatation. This may

be due partly to the fact that women in whom this operation becomes necessary have frequently suffered a great deal, and their nervous equilibrium is apt to be in a somewhat unsteady condition to begin with. Next in order come oöphorectomies, hysterorrhaphies, hysterectomies, etc., then other abdominal operations in which the uterus is not interfered with; and, least upsetting of all, are operations in which neither the abdomen nor the female generative organs are attacked.

The common teaching that the administration of ether is followed by nausea and vomiting much more frequently and severely than that of chloroform, is not borne out by the author's figures, though he states that of course no great weight can be attached to conclusions based on so small a number of cases. The higher percentage in this series of those suffering from nausea and vomiting, when chloroform was the anæsthetic, and the two cases in which chloroform was followed by much more severe after-effects than was ether, indicate that, in spite of the fact that, as a rule, other things are more important than the anæsthetic in the production of postoperative nausea and vomiting, still the anæsthetic in some cases does play an important etiologic part, and that with some people the use of chloroform is more apt to be followed by these unpleasant after-effects than is ether. That the reverse with some people is the case, is also undoubtedly true.

The proper preparation of the patient has much to do with the after-effects, and more important still is the after-treatment. Though in some cases it is an unnecessary hardship, it is a safe rule, at least after abdominal operations, to keep everything out of the stomach for

from 12 to 24 hours, for not infrequently, several hours after an operation, the taking of even a very small amount of water will set up a very distressing nausea and vomiting, from which up till that time the patient had been wholly free. Though the number of cases is too small to justify many conclusions, the author thinks one thing is shown, and that is, the degree of gastric disturbance following etherization has no relation whatsoever to the amount of ether used; the fact that the average amount used in all those who did not suffer from those unpleasant after-effects was exactly the same as in those who did, proves this conclusively. L. E. Holmes (American Medicine, December 23, 1905).

NEURALGIA, DEEP INJECTIONS OF ALCOHOL IN.

The writer states that he has made 250 deep injections of alcohol in cases of tic douloureux, or facial neuralgia, and never has had the slightest mishap or unpleasant by-effect. The pain was arrested at once. The effect is like a transient Gasserectomy, as for the time being the functions of the Gasserian ganglion are suspended. In at least 90 per cent. of the cases the neuralgia was cured by the procedure. In about a third of the patients recurrence was observed after four or five months, but one or two more injections definitely banished the pain. The author injects 1 or 1.5 cubic centimeter of 80 per cent. alcohol, to which .01 gram of cocain or stovain has been added, making the injection along the trunk of each of the branches affected, at the point where they emerge from the bone. He prefers the bayonet-shaped needle, and has found these deep injections of alcohol effectual in case of

neuralgia elsewhere in the body, in sciatica, etc. He has also cured cases of rebellious facial hemispasm by injecting, a drop at a time, 70 per cent. alcohol along the trunk of the facial nerve, according to Schlösser's technic. Ostwalt (Presse Médicale, No. 101; Journal American Medical Association, February 3, 1906).

NEURASTHENIA.

An individual becomes neurasthenic only after having suffered from some of the psycho-neuroses, the latter having been usually caused by traumatism, by disturbed metabolism, or by peripheral nerve irritation. Heredity, occupation, or environment can hardly be considered etiological factors without further qualifications. Neurasthenia should be considered a mental rather than a physical disease. Mental symptoms often persist after removal of all physical causes, and can only be relieved by some form of psychic treatment. Mental hygiene is both preventative and curative. The neurasthenic should be taught that a healthy mental attitude conduces to bodily health. H. A. Rodebaugh (Cincinnati Lancet-Clinic, December 23, 1905).

CEDEMAS, SIGNIFICANCE OF.

The transudation of serum into the bronchi, the intestines, etc., in these conditions is analogous, according to Cantani and others, to the transudation of fluid into the closed cavities and the subcutaneous tissue. *Cedema*, according to the writer, should not be considered as a symptom, but as a means of defense of the system which, paradoxically, may in itself be injurious. The ideal treatment of cedemas is derivation through the intestine, both in superficial cedemas and in dropsy. In apply-

ing this treatment, the way pointed out by nature is simply followed. This view is contrary to that of Taruella and others, who regard œdemas as signs of functional decline of the organism. It is true that in chronic disease of the kidneys or of the heart the appearance of dropsy and œdema are signs of the decline of the defensive powers of the organism, but the writer considers that Taruella is wrong when he says that the deposit of serous fluid containing poisons is purely a passive phenomenon; because if this were so, the amount of œdema would always be proportionate to that of renal retention or to the degree of obstruction in the circulation. Torrinio Silvestri (*Gazzetta degli Ospedali e delle Cliniche*, January 7, 1906; *New York Medical Journal*, February 10, 1906).

OVARIAN TUMORS, COMPLICATIONS ARISING IN.

As regards malignancy, the writer states that one in every four to six cases of tumor of the ovaries is malignant, and that this proportion is sufficient to warrant the treatment of all cases of ovarian tumors as malignant until proved otherwise. The operative mortality in cases of malignant disease of the ovaries should not be above 10 or 12 per cent. The number of cures at the end of five years will be relatively small. Carcinoma is by far the most frequent and most dangerous of the malignant diseases of the ovaries, and the recurrences will be largely due to this condition, with the exception of the epithelioma choriœctodermale of Pick, which is probably one of the most malignant of the ovarian tumors, but which occurs much more infrequently than carcinoma.

Every case of ovarian tumor should

be operated upon at once, unless there is some strong counterindication for the same. The so-called "border-line cases" should be operated on, because the case may present all the clinical evidences of malignancy, and on operation may prove benign; or the gross specimen may even, together with the clinical symptoms, appear malignant, and on histological examination prove benign; this is especially true of adenopapillomata, which frequently grossly and clinically so closely resemble adenocarcinomatous papilloma. An exploratory laparotomy and the removal of ascites will make many cases more comfortable, and should certainly be performed when there is any doubt whatever as to the absolute diagnosis of malignancy.

All ovarian tumors should be subjected to a rigid microscopic examination, and in cases in which there is any doubt as to the character of the tumor, a large number of sections should be taken.

Parovarian cysts are far less dangerous than true ovarian cysts. In the author's series of nineteen consecutive cases of parovarian cysts there were no complications and no malignant degeneration.

Torsion, next to malignancy, is the most frequent and dangerous complication occurring in ovarian tumors, and it occurs in a mild form more often than is generally supposed. In the sixty-three cases reported the writer considers that 33.33 per cent. would surely have died within a short time without operation. The operative mortality of all ovarian cysts should be under 8 or 10 per cent. In the writer's series it was 3.17 per cent. The operative mortality for benign cysts will be much less—in the writer's series it was less than 2 per cent. The operative mortality for ma-

lignant tumors of the ovary should certainly be under 10 or 15 per cent., and early diagnosis and immediate operation on all new growths of the ovary will greatly reduce this proportion. C. C. Norris (University of Pennsylvania Medical Bulletin, January, 1905).

PARALYSIS, DIFFERENTIAL DIAGNOSIS OF ORGANIC AND FUNCTIONAL.

Ability to raise the paralyzed lower limb from the bed, with inability to raise both lower limbs simultaneously, has been noted by the authors as a distinctive symptom of organic paralysis, and is classed by them with Babinski's sign of "combined flexion of the thigh and the trunk." They have chiefly studied the symptom in hemiplegics, and they point out that it differs essentially from the well-known phenomena of associated movements in them, such as being able to grasp more powerfully with the paralyzed hand when grasping movements are made with the sound hand, the principle of the new symptom being, in fact, an inverse principle. Though the hemiplegic of organic type may be able to raise either lower limb separately from the bed, yet he cannot raise the two simultaneously. Another way of demonstrating the same inability is for the patient to be directed to raise the paralyzed limb and hold it in the air, and while he is thus holding it up the healthy leg is raised for him when the (partially) paralyzed limb immediately falls. But the inverse is possible, while holding the sound limb in the air if the paralyzed limb is raised for him, he still holds up the healthy limb himself. The whole explanation is one of the fixation of the pelvis or the sound limb to provide a fulcrum for muscular action. On effecting a movement three influences, they remind us, are brought into play—

the contraction of the acting muscle, the active relaxation of what is usually called the opposing muscle, and, thirdly, the contraction of certain other muscles at a distance, which help to fix parts of the skeleton round which the movement is to take place. Normally, with one leg on the bed the raised sound leg is acting against the fixed resting leg, but when both are raised the fixing muscles are the spinal muscles acting on the pelvis, and it is these which, in organic paralysis, fail in their efficiency. This associated contraction is an automatic act, and as such is not weakened in cases of functional paralysis, and hence the value of the phenomenon as a diagnostic point in distinguishing organic from functional paralysis. A healthy individual can raise some 12 to 15 kilos from the bed when attached to his foot, with the other leg firmly applied to the bed; but with the second leg in the air he can only raise 4 or 5 kilos less. Grasset and Graüssel (*Revue Neurol.*, September 15, 1905; *British Medical Journal*, January 13, 1906).

PERINEPHRITIC ABSCESS.

The author believes that many more cases of perinephritic abscess are due to suppurative renal disease than is generally supposed, a fact which will be proved with the rapid strides that are now being made in renal surgery. Traumatism, exposure, and similar influences to which primary perinephritis is attributed, are not so important as many observers have claimed. They are often vaguely given as causes, when they are simply coincidences, or the active causes of rupture of already existing abscesses in the kidney or neighboring structures.

It is important, though difficult, to determine the source and course of the pus. Therefore, before the operation,

pus should be looked for in the common urine and the separate urine by the ureteral catheter. During the operation the surgeon should try to determine whether the kidney is the source, and if not, what tissue or organ is. It is equally as important to discover the road taken by the pus, as it indicates where a counter-opening should be made, and the further treatment of the case for complications.

The elements of success in operations for perinephritic abscess may be summed up as follows: Early incision and evacuation before the pus has had time to burrow extensively. Thorough exploration, without timidity, opening the kidney and exploring the ureter if need be. Thorough drainage down to the deepest part of the sac by means of large, soft rubber drains or gauze, the drain being kept in place until a well-formed sinus exists down to the deepest part of the cavity. Nephrotomy, nephrostomy, or nephrectomy should be performed if indicated at the time of the operation or later. Ramon Guiteras (New York Medical Journal, January 27, 1906).

PERITONITIS, PRINCIPLES FOR TREATMENT OF.

From experiences at Frankfurt, the writer concludes that the benefits of operative treatment of peritonitis are due to the removal of pus and of the cause of the suppuration, and the drainage of abscesses and recesses, while it stimulates the peritoneum to increased resistance. The peritoneum owes its resisting power to its destruction and digestion of bacteria and absorption of the products of inflammation. Opium robs the peritoneum of its resisting powers by holding it immovable and thus preventing the distribution of the

infectious material over a large surface. Delay should not be considered when peritonitis is once diagnosed, only excepting the irritation of the peritoneum which accompanies gonorrhoeal affections of the tubes and certain puerperal affections of the uterus and adnexa. Spontaneous recovery from severe peritonitis is extremely rare. The author believes in copious rinsing of the peritoneum, with ample drainage and counter drainage. In his hospital a jar holding 150 liters of saline solution, on the floor above, is used to flush the field of operation. The tube and drain are sterilized by steam under pressure through them before they are used. The promotion and maintenance of peristalsis are the chief aims of the after-treatment, and twelve drops of physostigmin salicylate (.02 to 20), by mouth, is preferred to subcutaneous use of drugs. From 1,500 to 2,000 cubic centimeters of artificial serum are injected at once after the operation. In the after-treatment analeptics are advocated. Absolute repose should be strictly enforced. W. Nötzel (Beiträge zur klinische Chirurgie, Bd. xlv., No. 2; Journal American Medical Association, February 10, 1906).

PHARMACOLOGICAL ACTION, A NEW THEORY OF.

An interesting analogy to Ehrlich's side-chain theory is afforded by a recent explanation of the manner in which various drugs and the nerve endings influence the tissues. In studying the action of nicotine upon nerve and muscle, Professor J. N. Langley (Journal of Physiology, December) discovered peculiar effects which could be explained only upon the hypothesis that the drug acted neither upon the nerve nor upon the true muscle substance, but affected

an intermediary, or receptive, body known as the "synaptic" substance.

It was found that in the normal state both nicotine and curare abolished the effect of nerve stimulation, but did not prevent a contraction from being obtained by direct stimulation of the muscle. Moreover, on the further injection of an adequate quantity of nicotine, stimulation of the nerve would produce the muscular contraction. From these results it was concluded that neither the poison nor the nerve impulse acted directly on the muscle substance, but on some accessory substance. The latter is normally the recipient of the stimuli, which it transfers to the contractile material, and is spoken of as the receptor substance of the muscle. Only on this hypothesis can one account for the fact that, while a small dose of nicotine prevents the nerve impulse from reaching the muscle, a large dose has no effect.

Each kind of muscle has its own specific receptor substance, and it is inferred that the same is true of all other kinds of tissue. Certain familiar actions of drugs on special tissues can easily be explained on the basis of this ingenious theory. Thus, it is well known that adrenalin has an elective action on unstriated muscle, but particularly that of the blood-vessels, while other drugs exert their action chiefly or exclusively upon the muscle of the heart. Applying the terms of Ehrlich's side-chain theory, Langley considers the receptor substance as side-chain molecules of the contractile substance of the muscle.

It is pointed out that in all cells two constituents must be distinguished. The first consists of substances that carry out the chief functions of the cells, such as contraction, secretion, the formation of special metabolic products, etc. The second comprises the receptor sub-

stances, which are especially liable to change and are capable of setting the chief substance in action. Nicotine, curare, pilocarpine, strychnine, and most other alkaloids, as well as the effective material of the internal secretions, produce their effects by combining with the receptor substances, and not by acting on the axone endings, if these are present, or by a direct action on the chief substance.

The variation in the effect of the sympathetic nerves upon the different forms of unstriated muscle is thus to be attributed to an inherent tendency to chemical variation in the cell protoplasm, so that there are formed different receptor substances, the responsiveness of which to the nerve impulse varies.

The validity of this novel theory of drug action is well supported by recent experimental work on the action of adrenalin. T. R. Elliott (*Journal of Physiology*, July, 1905) has shown that the single characteristic of adrenalin is its aptness to stimulate plain muscle and gland cells that are or have been in functional union with sympathetic fibres. In default of sympathetic innervation, plain muscle is indifferent to adrenalin. The stimulation takes place at the junction of muscle and nerve fibre, and the irritable substance at the myoneural junction depends for continuance of life on the nucleoplasm of the muscle cell, not of the nerve cell.

The "myoneural junction" of Elliott would thus correspond to the "synaptic" substance of Langley. The researches of the latter bear out previous conceptions of the extreme complexity of the cell, and indicate with what wise provision the metabolic machinery of the cell has been kept quite separate from the part susceptible to external influ-

ences. A fuller study of the receptive side-chains of the protoplasm may yield remarkable advances in pharmacology. Thus, it may yet be shown that the action of narcotics depends upon their union with the receptors of the cells, which, becoming more or less saturated or locked up, are prevented from uniting with other substances or from responding to physiological influences through the medium of the nerves. Editorial (New York Medical Journal, February 24, 1906).

PROSTATE, CARCINOMA OF THE.

From a study of forty cases, the writer concludes that carcinoma of the prostate is more frequent than is usually supposed, occurring in about 10 per cent. of the cases of prostatic enlargement, as shown also by Albarran. It may begin as an isolated nodule in an otherwise benign hypertrophy, or a prostatic enlargement which has for many years furnished the symptoms and signs of benign hypertrophy may suddenly become evidently malignant. Marked induration, if only an intralobular nodule, in one or both lobes of the prostate in men past fifty years of age, should be viewed with suspicion, especially if the cystoscope shows little intravesicular prostatic growth, and pain and tenderness are present.

The posterior surface of the prostate should be exposed as for an ordinary prostatectomy, and if the operator is unable to make a positive diagnosis of malignancy, longitudinal incisions should be made on each side of the urethra, as in prostatectomy, and a piece of tissue excised for frozen sections, which can be prepared in about six minutes and examined by the operator at once. If the disease is malignant, the incisions may be cauterized

and closed and the radical operation performed.

Cancer of the prostate remains for a long time within the confines of the lobes, the urethra, bladder, and especially the posterior capsule of the prostate resting inviolate for a considerable period. Extraprostatic invasion nearly always occurs first along the ejaculatory ducts into the space immediately above the prostate between the seminal vesicles and the bladder and beneath the fascia of Denonvilliers. Thence the disease gradually invades the inferior surface of the trigone and the lymphatics leading toward the lateral walls of the pelvis, but involvement of the pelvic glands occurs late, and often metastases occur into the osseous system without first invading the glands.

Cure can be expected only by radical measures, and the routine removal of the seminal vesicles, vasa deferentia, and most of the vesicle trigone, with the entire prostate, as carried out in four cases by the writer, was shown to be necessary by the forty cases, including eight autopsies and ten operations. H. H. Young (Surgery, Gynecology and Obstetrics, February, 1906).

PSORIASIS, TREATMENT OF.

The writer thinks that not enough attention is paid to hydrotherapy in the treatment of psoriasis, especially sweat baths with dry heat. Douches, alternating hot water for two minutes and then cold water for two seconds, are another useful measure. The sensitiveness of the skin must be carefully determined for each individual case to gauge treatment. As a rule, the oil of cade is preferred to chrysarobin and pyrogallol. The patients should be moderate in the use of alcohol, coffee, and tobacco, and

should avoid a "too nourishing" diet in general as tending to favor eruptions.

The internal treatment of psoriasis is considered uncertain by the author, useless and even harmful in some instances. Arsenic sometimes aggravates the symptoms or induces others. The salicylates and iodine internally have proved ineffectual in his experience, although he acquired the impression in some cases that potassium iodide internally promoted the action of external medication. Thyroid treatment is warned against. In regard to prognosis, the author is quite pessimistic. The treatment which may cure one patient may have no effect on another; in a third, the old eruption may subside, but another follow close, and in a fourth it may transform a torpid process without subjective symptoms into an annoying and generalized affection, disturbing the general health. E. v. Düring (*Deutsche medizinische Wochenschrift*, December 21; *Journal American Medical Association*, February 17, 1906).

PUERPERIUM, THE GONOCOCCUS IN THE.

The results of a study of seventeen cases showed that gonococcus infection was present in a much larger proportion of patients of the obstetrical clinic than was previously supposed by the writers. This is explained by lack of knowledge of discovery of the organism. The difficulty of cultivation of the gonococcus is one factor in this failure of isolation. Intrauterine or other cultures in cases of mixed infection may show the accompanying organisms, while the gonococcus fails to grow out. The failure to discover the gonococcus by means of smears is explained by the fact that such smears are usually taken early in the puerperium, at the time when fever or other morbid symp-

toms appear, and are obscured by blood. The positive diagnosis of the gonococcus is difficult in the absence of pus-cells, and these do not, as a rule, appear until later in the puerperium. The spread of the gonorrhœal infection also increases the ease of recognition of the organism as the puerperium advances. These facts explain the varying results of other investigators.

The temperature curves of the patients having fever were so varied, and differed so much one from another, that no reliance could be placed upon this as an aid to diagnosis. One patient had a temperature-chart similar to that of acute streptococcus infection, and others showed varying grades of height and duration of temperature. However, the most common type seemed to be that of a sudden rise, followed by return to the normal in three or four days, simulating *sapremia*.

The puerperal state has a direct influence upon the course of the disease. Gonorrhœa, which has been latent before labor, commonly spreads upward with rapidity during the puerperium. This was shown in the authors' series by the presence of abdominal pain and rigidity in patients not previously thus afflicted. The presence of these symptoms, when accompanied by fever, is considered to indicate the extension of the disease beyond the confines of the uterus. Thus may be explained many of the cases of salpingitis following labor, which are supposed to be the result of puerperal infection.

All patients in the present series were *primiparæ*, although a certain number of *multiparæ* were delivered in the clinic. The tendency of gonorrhœal disease to spread upward and involve the tubes is believed to account for this disproportion. One-child sterility is thus

caused by gonorrhœal disease. Gonorrhœal infection is a frequent cause of abortion, and in all cases of late abortion this should be considered. Thus if adnexal disease follows an abortion, it should not be ascribed to the abortion, as gonorrhœal infection may have been the cause of both. W. S. Stone and Ellice McDonald (Surgery, Gynecology and Obstetrics, February, 1906).

SCARLATINAL NEPHRITIS, ETIOLOGY AND PREVENTIVE TREATMENT OF.

In scarlet fever the function of the skin is almost completely suppressed, thus overtaxing the kidneys, which are also called on to carry off the toxic agent of the disease. There seems to be evidence that this last alone may be sufficient to produce the kidney disorder without the usual clinical manifestations of scarlatina. Constipation, diet, and exposure to cold are all important contributory factors, the last mostly in susceptible and anæmic patients.

For prevention, the writer would insist on good ventilation and constant, carefully regulated temperature (68° to 70°F.), a milk diet varied toward the close of the disease, with tender vegetables, fruits, and farinaceous substances cautiously added. Fruit juices are refreshing and help to lessen urinary acidity. Daily urinary examination should be made, especially after each change of diet, and on any appearance of albumin a return to an absolute milk diet should be made at once. Hydrotherapy is mentioned as the one chief remedy. The only drugs of any value in preventing renal complications are alkalies and laxatives. Five or ten-grain doses of acetate or potassium citrate are recommended. Minute doses of calomel should be given at intervals of three or four days during the disease, followed

by broken doses of magnesium sulphate. H. Lowenberg (Journal American Medical Association, February 17, 1906).

SCOPOLAMINE-MORPHINE ANÆSTHESIA.

From observations made in forty cases of anæsthesia induced by this method, upon animal experimentation, and upon a review of all deaths that have been reported in the literature up to the present time, the writer concludes that scopolamine-morphine narcosis is not devoid of danger, and its use alone for surgical narcosis is not justifiable, and, in the writer's experience, is not practicable. A single dose two hours before operation lessens the discomforts attendant upon the operative procedure to a high degree, and may obtain a definite place in surgical practice. Four deaths have occurred in a series of 2,400 collected cases, which have been so definitely related to the use of this method of narcosis that they are probably scopolamine deaths. This, however, in the absence of autopsy demonstration. These deaths have been reported as occurring with a type picture of alkaloid poisoning, and heart failure has been given as the direct cause of death (Landeau). A fatty degeneration of the liver and kidney has been produced by repeated doses of scopolamine alone, and of the scopolamine-morphine combination, in animals. This method of producing or assisting narcosis cannot yet be recommended for use in general practice, in spite of the great advantage it seems to offer. (Kochmann.) H. J. Whitacre (Surgery, Gynecology and Obstetrics, February, 1906).

SENSIBILITY OF THE ABDOMEN.

From an extensive study of the subject, the writer concludes that it is necessary to investigate much more

closely than has yet been done the conditions of sensibility in the region of the cæcum. The sensibility of the skin must be distinguished from the tender points in the musculature, and the latter from the tender points in the sacral hollow of the pelvis, and each and all should be compared with the symmetrical points on the other side of the abdomen. The tenderness at McBurney's point is purely nervous. At this point the nerves of the appendix correspond with those of the abdominal wall above, so that the condition of irritation in the sympathetic plexus of the region of the cæcum induces hyperæsthesia in the intercostal nerves and also at the places where the cutaneous nerves pass through the fascia. There is another tender spot in the sacral hollow of the pelvis, the ileocolic plexus, which may be hypersensitive and tender in case of essential irritative conditions, such as hysteria, neurasthenia, etc., or by radiation, as in case of appendicitis, colitis, cholelithiasis, etc. Hence tenderness in this region cannot alone serve to diagnose appendicitis. Palpable anatomic findings are the only reliable basis for the diagnosis. For the differential diagnosis between appendicitis and cholecystitis, even icterus is not decisive except when it occurs without fever. Bacteria may be carried from the appendix into the liver and thence into the bile, and may thus induce cholangitis and cholecystitis. This is why icterus is not a rare accompaniment of appendicitis. It also explains the frequent combination of appendicitis and of subsequent cholelithiasis. When there is a striking lack of tenderness in the pathologic resistance and its vicinity, it is safe to assume that the sensation of pain, if it exists, is falsely located, and that it should be referred to the more centri-

petal sympathetic plexus or to the skin, and in the latter event to the symmetrical point opposite. In attacks suggesting appendicitis and requiring operation, special attention should be paid to the gall-bladder, particularly when the findings in the appendix are comparatively trifling. On the other hand, the appendix should always be investigated during an operation for gall-stones. In cases suggesting appendicitis or a gall-stone affection, without decided palpable findings, the diagnosis should be left in suspense, but the treatment should be that of the more serious affection, namely, of appendicitis. G. Kelling (*Archiv für Verdauungs-Krankheiten*, Band xi., Nu. 6; *Journal American Medical Association*, February 17, 1906).

SHOCK, TREATMENT OF.

In the treatment of shock, Keen has practically given up the use of strychnine, and has substituted adrenalin for it. Montgomery does not believe strychnine to be the best drug for continued use. He says that after the preliminary dose of strychnine better results can be secured from the administration of some preparation of aseptic ergot. Next to intravenous injection of salt solution, he has learned to rely on ergot as the most effective agent in shock. Martin says that the only drug which seems to have a distinct action in desperate cases is adrenalin chloride. This, to be effective, must be given intravenously in extreme dilution (1 to 20,000 normal salt solution) and allowed to flow slowly into a vein. It is transitory in its effects, however, and the injection may have to be repeated. This may be done for from twelve to twenty-four hours through a canula left in the vein.

Da Costa favors adrenalin adminis-

tered intravenously with salt solution, and given very slowly and gradually for a considerable time. Rodman says that in mild cases due to anæsthesia and the operation combined, nothing more is required than oxygen, a decided lowering of the head, and artificial heat. In cases of moderate severity, in which the temperature is from one to two degrees below normal, but unaccompanied with great cardiac and respiratory involvement, enemata of hot coffee and whisky or enteroclysis of hot saline solution, in addition to position and artificial heat, will be all that is necessary. If in addition to a cold, clammy skin, and temperature 96° F. or below, there is much pain, a hypodermic of $\frac{1}{8}$ grain of morphine with $\frac{1}{160}$ of atropin is added to the above. Hypodermoclysis may be substituted for, or used in conjunction with, enteroclysis. If the pulse is short, frequent, and jerky, above 130, and of poor volume, intravenous infusion, preferably with adrenalin chloride, is called for; one-half pint to a pint, frequently given, is better than three or more pints at once. Laplace thinks that strychnin as a cardiac tonic is of the utmost value, but that it fails in its purpose if the circulation be at the time too weak to have it produce a stimulating effect on the brain. It is, however, the best agent for reducing shock to a minimum during an operative procedure. (*Therapeutic Gazette*, December 15, 1905.)

SODIUM CHLORIDE IN DISEASE, ACTION OF.

The clinical importance of the action of sodium chloride in various diseases is discussed by the authors; they compare the effect of a diet more or less salted upon collections of fluid in the serous cavities and upon œdema, due either to cardiac disease or to nephritis. They

have investigated the subject extensively, with the object of assigning its proper value to sodium chloride. The method of administration is of primary importance; when a large dose is given all at once, the salt, on reaching the intestine, does not promote absorption, but is the cause of a copious secretion followed by diarrhœa, with the elimination of a quantity of the salt and much fluid withdrawn from the body; when, however, it is administered in small doses spread over the day, it is entirely absorbed and has an exactly opposite effect. Having summarized the literature already published on this subject, they quote a large number of cases of pleurisy, ascites, and cardiac disease upon which they have experimented and from which they have been able to draw certain deductions. The administration of considerable quantities of sodium chloride produces a remarkable diminution in the quantity of urine secreted and an increase in the percentage of chlorides in the urine itself and in fluid contained in the serous cavities; if salt is withdrawn from the diet, the urine secreted is increased in amount and there is a proportional fall in the percentage of chlorides in the urine and in the fluid in the serous cavities. Those patients to whom a salt diet was administered retained the major part of the fluid which they imbibed. The effect of a salt diet upon collections of fluid in serous cavities was irregular; in some there was apparent diminution, in others an increase ensued when they reverted to a diet without salt, and in others there was no appreciable result. In two cases of cardiac disease with serious functional insufficiency the symptoms were aggravated by this treatment; in the others, the heart being well compensated and equal to its work,

no undesirable effect was noted; the amount of urine was diminished, but there was no œdema. The most important fact demonstrated by these researches is that of a diminution in diuresis with a corresponding increase in the percentage of chlorides; from this the conclusion is drawn that the retention of fluids in the body is not likely to be favorable in disease, and is distinctly unfavorable in cardiac affections. Bruno and Petroni (*Clin. Mod.*, November 15 and 22, 1905; *British Medical Journal*, February 10, 1906).

SPASMUS NUTANS, PATHOGENESIS OF.

The appearance of unilateral nystagmus in spasmus nutans is explained by the writer as follows: In early life it easily happens that one of two physically equal retinal images is not perceived and is disregarded by the mind, as is clearly shown in the typical strabismus convergens which appears in childhood. In those children in whom favorable internal and external conditions for the genesis of spasmus nutans are present, it often happens that the central perception apparatus, the mind, directs its attention on the retinal image of only one eye—for example, the left—and disregards that of the right. In consequence of this the impulses of labile eccentric fixation, which go out from the center, pass only to the left eye. In the age of life under consideration, the law of equivalent motor innervation of the eyes does not possess its full force, and a unilateral nystagmus can appear, either in the form that only the left eye oscillates or that this eye oscillates more than the other. Therefore, when unilateral nystagmus accompanies spasmus nutans, the eye which oscillates alone or most perceptibly is to be considered as the “fixing

eye,” as that one whose retinal image is perceived and mentalized. In spasmus nutans, in addition to the nystagmus there occasionally appears a transitory strabismus, due to a spasm of a rectus or oblique muscle. This muscular spasm is to be regarded as a “confident movement” in no way contrary to the rule. A. Schapring (Annals of Ophthalmology, October, 1905).

TONSILLITIS: TREATMENT.

According to the writer, the patient should be isolated and receive broken doses of calomel, followed by saline laxative or croton oil, quinine in tonic doses. Strychnine, aconitin, sodium salicylate, guaiac, and anodynes may also be required. Hot alkaline gargles and a spray of hydrogen peroxid are useful. Potassium chlorate has little value. Often the application of the tincture or vinegar of capsicum produces the most brilliant results. Congestion and œdema are reduced, the separation of sloughs is facilitated, granulations are stimulated, vasomotor inertia is overcome, and normal tissue metabolism is re-established. Tincture of capsicum, full strength or diluted with cod-liver oil, should be applied to the Schneiderian mucous membranes in the treatment of the rhinitis, which is a frequent concomitant of the tonsillar involvement. The nasal mucosa is first cocaineized, and the capsicum is then applied with a cotton-covered applicator. R. M. Niles (*Medical Record*, December 23, 1905).

TRANSPLANTATION OF VEINS AND ORGANS.

The authors obtained the reversal of the circulation in the jugular vein, in the carotid artery, in the arteries and veins of a limb. Important anatomic changes of a transplanted venous wall

soon occur under the stimulus of the increased pressure. The thigh of a dog was completely amputated and afterward replanted by suturing the vessels, the nerves, the bones, the muscles, the aponeuroses, and the skin. The pulsations of the popliteal and the posterior tibial arteries immediately became normal, and the femoral vein filled with dark blood. A kidney was extirpated and transplanted by anastomosis of the renal artery to the carotid artery, of the renal vein to the jugular, and the ureter was made to open into the lumen of the œsophagus. On the third day after the operation the kidney was directly examined. Its circulation was found normal. A good excretion of urine was going on. The thyroid gland was extirpated and replanted with reversal of the circulation. On the ninety-fourth day after the operation, the gland was found to have a good circulation. Alexis Carrel and C. G. Guthrie (*American Medicine*, December 30, 1905).

TUBERCULOSIS, WRIGHT'S TREATMENT OF.

The writer discusses the method of A. E. Wright, consisting in (a) the use of tuberculin and its control by testing the opsonic index of the blood to raise the bacteriotropic powers of the blood; and (b) promoting the flow of the lymph. The theory is that the body defends itself against bacteric invasion by the development in the blood serum of substances termed opsonins, each bacterium leading to the development of its special opsonin, which, coming in contact with the living bacteria, weaken them and enable the phagocytes to complete their destruction. The writer holds that the determination of the opsonic index depends too much upon the personal equation of the observer; further,

that opsonins and phagocytes do not constitute the whole means of defense of the body against tubercle bacilli. Wright states that strictly localized infections do not tend to get well. This is only true in the case of lupus. If the surgeon employs substances which produce a flow of lymph through a tuberculosis sinus, he is very liable to set up a mixed infection which tuberculin has much less power to cure. Tuberculin is a most valuable adjunct to surgical treatment, and should certainly be used. But to do away with all operation and blindly to convert the physician into an immunizator would, in the writer's opinion, be a totally retrograde step. W. W. Cheyne (*Lancet*, January 13, 1906).

TYPHOID FEVER, ABRUPT ONSET OF.

Two important groups of cases with an abrupt onset are distinguished by the writer: First, those which really are abrupt; and, second, those which seem to be abrupt and yet are actually not so; those melancholy cases of walking typhoid, by no means infrequent, in which the onset of the disease has been insidious and which invite medical aid only after the appearance of some catastrophe, such as perforation, hæmorrhage, peritonitis, etc. Cases of abrupt onset may be ushered in variously, either with chills, severe pains in the abdomen, head, or other parts of the body, or violent delirium; or they may simulate cases of appendicitis, nephritis, pneumonia, pleurisy, grip, or diphtheria with throat lesions. The explanations for this sudden onset are that in some patients the typhoid bacilli have developed silently in the organism and without presenting any marked clinical features until the disease is well developed; in others, however, it must be the rapid development of the bacilli in the body.

Morris Manges (Journal American Medical Association, December 30, 1905).

URIC ACID, TREATMENT OF.

In some cases, no matter what form of diet is used, uric acid in excess will be found and will appear in the urine. While no accurate rule is possible, the author's observation would lead him to exclude carbohydrates from the diet, rather than proteids, if either is to be excluded. Of those who excrete too much uric acid it seems to make no difference in the feelings in one group, while in another they are always miserable and always conscious that some organ is at fault. The author has been unable to find that red meat will cause excess of uric acid unless combined with rich gravies and condiments. He is certain that a diet of bread and starchy materials leads to excess of uric acid in a large number of cases. Objectionable substances, certainly when used in excess, are salt, acid, fruits, vinegar, and fermented or distilled liquors. As to treatment, the writer states that it is well to find that diet which best agrees with the patient, to take a course of treatment at a suitable mineral spring, drinking saline water in abundance. J. F. Goodhart (Practitioner, January, 1906).

WOUNDS, PHYSIOLOGICAL TREATMENT OF.

The considerations involved in the modern theories of inflammation and repair, and especially those concerned in Bier's congestion method of treatment, are reviewed by the writer. These lead him to the conclusion that the abandonment of the old-time antiseptic wet dressing in favor of the aseptic dry dressing was a mistake. It is now being recognized that the various phenomena

attending the processes of inflammation are salutary in their purpose, and that a rational method of treatment should encourage and not seek to prevent them. The congestion, oedema, and assembling of leucocytes that are now known to be important steps in the resistance to infection and the process of repair are encouraged by the aseptic wet dressing. The allegation made against it, that it macerates the tissues and furnishes a moist chamber for the development of bacteria, is valid only when the dressing is improperly applied, by being too wet. Correctly used, through its congestive action it encourages the natural processes of healing to a greater degree than does the dry dressing, and it is also more effective in relieving the subjective symptoms of the patient. Esch (Deutsche medizinische Wochenschrift, December 14, 1905).

X-RAY, LOCAL USE OF LIGHT AS A PROPHYLACTIC TO EFFECTS OF.

When the X-ray is used for therapeutic purposes, the use of concentrated light will inhibit a disagreeable degree of action. The light from a powerful search-light requires about twice the length of time to counteract the effect of X-ray exposure when used as ordinarily for treatment. When, however, exposures are made with the degree of intensity or volume of radiation employed in rapid radiography, it requires relatively a longer period of exposure to counterbalance the effects. There is probably no agent as effective in restoring the normal functional activity of the skin and deeper tissues. Where a severe dermatitis is present, substances rich in enzymes, as the white of egg, promote more rapid treating. Where sterility has followed from too frequent or prolonged exposure to X-light, local treat-

ment by light offers the greatest chance of a speedy restoration of function. It is gratifying to note that this antagonistic action of light and X-rays can be turned to account so as to benefit alike the patient and the operator. Editorial (*Advanced Therapeutics*, December, 1905).

LISBON INTERNATIONAL MEDICAL CONGRESS.

The officers of the International Medical Congress, at Lisbon, have cabled to Clark Bell, President of the Medico-Legal Society, requesting that he organize an auxiliary committee to secure contributions to the Medico-Legal Sections of that Congress, viz.: Sections 14th, 15th, 16th, and 17th, embracing Medico-Legal, Military, Naval and Railway Surgery, Hygiene and Epidemiology. Dr. Bell therefore requests that all those interested in these subjects send him, at once, the titles of such papers as they will contribute, and send the completed papers later. They may be written in English, French, German, or Spanish.

Book Reviews.

MANUAL OF OPERATIVE SURGERY. By John Fairbairn Binnie. Second Edition. P. Blakiston's Son & Co., Philadelphia, 1905.

This work of Dr. Binnie's is of distinct value, filling a gap in the literature of operative surgery not heretofore covered. The author embodies in a single volume the methods and teachings of the leading operators of Europe and America, and adds his own personal views, which are the result of unusual surgical experience. The surgeons most freely quoted are Kocher and Wm. J. Mayo, who deserve the major portion of the space, for probably no two men have shown more originality. The scope of the work is complete in its field, for almost every surgeon, either in this country or Europe, who has devised an operation or a new and successful method of performing it, is given due credit, with details of the operation. The descriptions of the operations are clear, divided into steps, and yet brief. Many of the most intricate and difficult operations known in surgery are described, their dangers pointed out. Young and inexperienced operators are warned against attempting them without special preparation. The diagrams and illustrations, many of them in colors, are excellent, and taken for the most part from the works of others. Of the many writers quoted, each one is depended upon largely for the most advanced knowledge in this particular field of surgery, *e.g.*, Kocher, v. Mikulicz, Horsley, Moynihan, Robert Abbé, Mayo, Halstead, etc. This makes the book of unusual value. Dr. Binnie's own methods of performing certain operations are among the simplest and best. In the description of the various operations upon the Gasserian ganglion, no mention is made of the operation suggested by Spiller and successfully carried out by Frazier, of dividing the sensory root. In the chapter on Hallux Valgus, unnecessary confusion is created by the terms "inward and outward," "inner and outer," etc., requiring parenthetical explanations or foot-notes. The aspect of a joint looking toward the outer side of the foot would be the outer side of joint. In the chapter on drainage the Mikulicz gauze tampon is not mentioned. Kocher (in his text-book of operative surgery) permits his patients to leave the hospital and return to their occupations on the eighth day after his lateral transposition operation for the radical cure of hernia, whereas Dr. Binnie advises rest in bed for one month and abstaining from physical effort for three months. On page 439, the author states "that the dangers from pneumothorax are not so great as is usually imagined, is shown by the small mortality (9.6 per cent.) after recent wounds of the thorax." This is probably in accord with general experience, and yet in the section on operations upon the neck the accidental opening of the pleura is characterized as "a very fatal accident," perhaps putting it too strongly. The book is of over 600 pages, printed upon thin paper, with flexible leather cover, and can be slipped into a coat pocket. It would seem to the reviewer that the work has a special value for the young assistant surgeons

of our large city hospitals, upon whom much emergency work often falls. They are summoned at any hour of the day or night to critical cases which demand immediate operation. There is no telling beforehand what difficulties are present and the operator may be required to invade a region of which he has no experience. If it is, *e.g.*, a stab wound of the heart, he can turn over a few pages and receive the counsel of the highest authorities in regard to the most approved methods of quickly and easily exposing the heart.—W. G. E.

PERSONAL HYGIENE. Designed for Undergraduates. By Alfred A. Woodhull, M.D., LL.D., Brigadier General U. S. A., Retired. New York: John Wiley & Sons, Chapman and Hall, 1906.

General Woodhull, a retired surgeon in the United States Army, of much practical experience in both America and the Philippines, has always been a careful student of personal hygiene. He has been appointed lecturer on this important subject in the University of Princeton, where he is a favorite with the students. He now presents this small volume, which in its scope is strictly confined to the needs of students, and he has succeeded in presenting the essential points in such a form, with due brevity and full recognition of the practical needs of his readers, as to constitute a most valuable contribution. The book is not strictly on the subject of medicine, and yet will prove useful to medical men, because it is one which they can safely recommend to their patients. Many of the little books purporting to cover this ground are marred by insufficient knowledge and experience of the author and preconceived notions or fads. He has given a sensible, clean presentation of the essential points, and it is worthy of extensive distribution.—J. M. T.

THE PREVENTION AND CURE OF TUBERCULOSIS. A Collection of Articles of a Popular Character on the Subject of Tuberculosis, by Twelve Authors. Compiled by Joseph R. Long. Price, \$1.25. H. M. Brinker, Denver, 1905.

This small book is a collection of excellent essays on the subject outlined, which will be of great value to practitioners of medicine, and, while somewhat technical in parts, nevertheless is fit to be placed in the hands of many patients who can learn from it much which they need to know. It is illustrated sufficiently to make clear many points, and altogether will serve a useful purpose and deserves a wide distribution.—J. M. T.

GENITO-URINARY SURGERY AND VENEREAL DISEASES. By J. William White and Edward Martin. Illustrated. Sixth Edition. Philadelphia: J. B. Lippincott Co.

The text-book on Genito-Urinary Surgery and Venereal Diseases, the joint authorship of J. Wm. White and Edward Martin, has long taken a high place, indeed it may be safely said there is nothing higher, in this department of medicine. It has now passed the fifth edition and the sixth is before us. The authors say in the preface of the fifth edition that they have been compelled to avoid references to much of current literature, and have thus omitted probably many facts and conclusions stamped with the approval of diverse authors. In doing so, however, they have not failed to add whatever has been presented of value which meets with their acceptance. What is needed in text-books and systems of medicine is a preservation of the acceptable points and a judicious omission of others. The index calls for special comment, being of exceptional quality, printed in three stands of type, with abundant cross references and including unusually complete summaries of the subjects and their subdivisions. The book is a finished product of joint authorship, six times revised, and should find a place in the library of every one who pretends to practice among such cases.—J. M. T.

ANATOMY OF THE BRAIN. A Manual for Students and Practitioners of Medicine. By J. F. Burkholder, M.D., Professor of Anatomy at Illinois Medical College, etc. Introduction by Professor Henry H. Donaldson. 36 Full Plates, 5 Colored, from Original Drawings by the author. G. P. Engelhard & Co., Chicago, 1904.

The author presents in a concise, convenient form a series of plates, some of them diagrammatic in character, but all clear and comprehensible, of the brain of the sheep. This animal has been chosen, and it seems very wisely, because it is sufficiently analogous to that

of man and is readily accessible by every medical student, who can, by the use of these plates, do his own dissections and obtain a complete understanding of morphology and relationships. It has been a distinct pleasure to the reviewer to thus renew his acquaintanceship with many features of the brain, and to realize that in some directions at least modern teaching in medicine points toward simplification, not complexity. If now some competent physiologist, himself also a practiced clinician, would do the same thing for physiology of the brain and the whole nervous system, it would be a valuable associate. The two together would thus enable the student to grasp those fundamental principles which must be kept in mind, but which are too often forgotten or omitted because the ordinary text-book of anatomy or physiology deters the student by its immensity from that revision in essentials which must constantly be practiced, even by the most wise and learned. The index is excellent. The lettering of the plates is bold and clear. In all ways the volume is to be commended.—J. M. T.

"COUNSELS AND IDEALS" FROM THE WRITING OF WILLIAM OSLER. By C. B. M. Camac, M.D. Boston and New York: Houghton, Mifflin and Company, 1905.

Dr. Camac has made a valuable contribution which will be appreciated by the lovers of high thinking and right living, whether medical or lay. He has culled from the writings of William Osler much that has been presented at length elsewhere, but which otherwise might not meet the eye, except by a considerable research among his writings, most of which are too technical to be seen by those who would appreciate these isolated thoughts. To be sure, most of the sources of these writings are the less technical lectures and papers of Dr. Osler, nevertheless it would be impossible for any one to achieve a proper conception of his point of view, the fundamental principles for which he stands, and a right conception of his sincerity of motive, than from such compilation. A mere glance at the contents, giving the titles of the essays abstracted, shows the ethical intent of the author in that valuable position which the world should view him as a man. All that he endeavors to teach others, which has been his consistent, uniform effort through an exceedingly busy, laborious, and useful life, he has himself practiced. He has accomplished much, but those who know him and love him best could wish that he had accomplished even more. He has left an indelible stamp upon the school where he accomplished his greatest work, Johns Hopkins University. With all deference it must be said that his pathologic point of view is more prominent than the therapeutic. Nevertheless in the essays, here abstracted, he has achieved a broad, catholic point of view in teaching students of medicine high ideals and clean principles of thought and action. A grave injustice was done Osler recently by the unthinking babble of the lay press, misinterpreting certain remarks of his about the differing qualities of usefulness at various ages. Had he frankly and positively corrected these at once, not only would he have been better understood, but the whole profession of medicine, of which he is a brilliant prototype, would have been saved some depreciation. It is to be hoped this charming little volume will be widely read, that this fickle public, always too ready to gibe at the best efforts of scientific medicine, may learn of the monumental, altruistic labors of one man, as well as of his sincerity and broad humanitarianism.—J. M. T.

Books and Monographs Received.

The Editor begs to acknowledge, with thanks, receipt of the following books and monographs:—

"The Progress of American Medicine, and Its Relation to Public Affairs." By W. W. Grant, Denver, Colo., 1903.—"Complications and Sequels of Appendicitis." By W. W. Grant, Denver, Colo.—"Operation for Cancer of the Mouth." By W. W. Grant, Denver, Colo., 1905.—"Prostatism Without Enlargement of the Prostate, Its Diagnosis and Treatment." By C. H. Chetwood, New York, 1905.—"Recent Experiences in Kidney Surgery and the Utility of Diagnostic Aids." By C. H. Chetwood, New York, 1905.—"Address in Hygiene and State Medicine." By G. W. Wagoner, Johnstown, Pa., 1905.—"An Apparatus for Paralysis

of the Extensors of the Hand and Fingers." By G. G. Davis, Philadelphia, 1902.—"Lateral Deviations of the Spine." By G. G. Davis, Philadelphia, 1902.—"Multiple Cancellous Exostoses." By G. G. Davis, Philadelphia, 1906.—"Eclampsia; a Review of the More Recent Methods of Treatment, with the Results." By L. M. Gaines, Wake Forest, N. C., 1905.—"The Success Which at the Present Day Attends the Operation of Cataract Extraction, and the Causes that Contribute to It." By Samuel Theobald, Baltimore, Md., 1906.—"Practical Disinfection." Circular issued by the Illinois State Board of Health, 1906.—"Texas (Otherwise known as Tick Fever, Splentic Fever, or Southern Cattle Fever), with Methods for Its Prevention." By John R. Mohler, U. S. Dept. of Agriculture, Washington, D. C., 1905.—"The Black Hills Beetle, with Further Notes on Its Distribution, Life History, and Methods of Control." By A. D. Hopkins, U. S. Dept. of Agriculture, Washington, D. C., 1905.—"The Natural Replacement of White Pine on Old Fields in New England." By S. N. Spring, U. S. Dept. of Agricultural, Washington, D. C., 1905.—"The Rearing of Queen Bees." By E. F. Phillips, U. S. Dept. of Agriculture, Washington, D. C., 1905.—"Directions for Destroying Pocket Gophers." By D. E. Lantz, U. S. Dept. of Agriculture, Washington, D. C.—"Citrus Fruit Growing in the Gulf States." By P. H. Rolfs, U. S. Dept. of Agriculture, Washington, D. C., 1906.

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Editorials.

DEPARTMENT IN CHARGE OF
J. MADISON TAYLOR, A.M., M.D.

ON SLEEP, SLEEPINESS, INSOMNIA, THE "SLEEPING SICKNESS," AND THEIR CAUSATION.

DURING sleep the cortex cerebri is in a state of complete rest. Any strong stimulus acting upon the cortex cerebri, such as light or noise, may be a hindrance to sleep. This is best secured in a dark and quiet place, and it is a well-known

fact that chloroform narcosis can be produced best when nobody is talking in the operating room.

Sleep is one of those functions, the chief phenomena of which, according to our present physiologic knowledge, take place in the cortex cerebri. Others are the intelligence, will-power, remembrance, and imaginative power. There is a diseased condition in which, in a particular manner, each of these functions is affected, viz.: Myxœdema. As this is caused by a degeneration of the thyroid gland, it would be certainly indicated to investigate if this gland stands in any relation to the above functions.

This can certainly not be denied, if we take into consideration that the degeneration of this gland, as we find it in cretinism, is followed by idiocy; and, on the other hand, by giving thyroid extract to cretinous children, we see intelligence developing in a startling way in these practically imbecile subjects, who also improve physically at the same time, growing, as Hertoghe¹ shows, by inches in a brief space. At the same time, we see in myxœdema, by this medication, the memory growing better, the slowness of speech improve, and along with this condition the apathy and sleepiness.

Sleepiness is one of the cardinal symptoms of myxœdema, and insomnia is a typical symptom of the opposite condition, Graves's disease (hyperthyroidia). Thus it is justified to examine if this gland has any special direct influence upon the function of sleep. That this must be the case cannot be denied, for in a characteristic manner we see sleepiness accompany all those conditions in which the thyroid is degenerated.

Especially is this noticeable in myxœdema, or after the extirpation of the thyroid gland, which produces a condition analogous to myxœdema. Thus I have observed that dogs whose thyroid is extirpated are a certain time afterwards sleeping nearly all the time, and so much that the loudest noise will not make them stir.

Similar effects can also be observed in tumors of the pituitary body, for instance in acromegaly. However, as it has been shown by Gley, Rogowitsch, Stieda, Sajous and others, the pituitary gland and the thyroid are in a very close relationship, and, as I have also pointed out in a previous paper, we find pretty constantly alterations of the thyroid gland in acromegaly. Salmon also mentions that in tumors of the pituitary body, with sleepiness, there was generally found an atrophic condition of the thyroid.

Sleepiness is frequently observed in certain cases of obesity. Such a condition was described several years ago, under the name narcolepsy, by Sainton.² I have also observed similar cases. Thus, an English patient of mine, a gentleman weighing 260 pounds, would fall asleep on any occasion—in church, at the theatre

and concerts; and I have heard of a similar case in a confrere (related to me by Dr. Echlin, of Ottawa), who was a very fat man and who was snoring much louder during an operation than could be attributed to the narcotised young lady, whom Dr. Echlin was operating on for appendicitis.

The sleepiness in these cases must also be attributed to the thyroid gland, which governs metabolism, as shown by the researches of Prof. Magnus Levy, of Berlin, Thiele, Nehring, etc., and also by my own works. The fat-reducing action of thyroid extracts confirms this clearly.

As I have shown at the French Congress of Internal Medicine,³ there are two classes of obesity; the first is due to over-nutrition; the second is independent of the first, and can be observed after degeneration of those ductless glands which govern the processes of oxidation, like the thyroid, the pituitary body, and the sexual glands. The cases of sleepiness in obesity of this class I have called endogenous obesity, in contrast with the obesity due to the use of excessive food (exogenous obesity), or in its most developed forms.

The sleep produced by narcosis and alcohol can also be brought in relation with altered thyroid functions. I have observed, during narcosis with chloroform and ether, a marked swelling of the thyroid gland, more pronounced in persons with a healthy thyroid, and with all clinical symptoms indicating an alteration of thyroid function, as hyperthermia with flushed face, perspiration, tachycardia, mental excitation, etc. To complete the similarity to Graves's disease, we may also find glycosuria and acetonuria in both conditions. The sudden death in Graves's disease can also be compared to the sudden death in chloroform and other forms of narcosis. After the previous hyperactivity of the thyroid gland follows its exhaustion, and after previous mental excitation follows depression with sleep. After a certain time we can also observe the disappearance of the swelling of the thyroid⁴ and of the symptoms of hyperthyroidia. Chloroform, certainly acts directly upon the nervous elements, but also by participation of the thyroid gland, whose alterations are always followed by nervous symptoms.

The action of alcohol upon the thyroid has been explained by Hertoghe and lately by de Quervain.⁴ It also acts upon other ductless glands; thus Sajous has shown it to influence the adrenals.

Sleepiness is a frequent symptom of chlorosis. This disease is probably due to insufficiency of the ovaries, as shown by Prof. Von Noorden and other authors. As it has been shown by Pineles,⁵ myself,⁶ and also by Sajous⁷ in his elaborate work on "Internal Secretions," the different ductless glands stand in close functional relationship. Thus, also, diseases of the ovaries are followed by that of the thyroid, which can be clearly seen in menstruation, puberty, gravidity, lacta-

tion, menopause. This also explains why myxœdema and Graves's disease are more frequent in women.

It is a fact that in chlorosis the thyroid is very often altered, which might also explain the frequency of sleepiness in this ailment.

After the above, we might be justified to ask if the African sleeping sickness has not something directly to do with thyroid degeneration. In fact, after I had myself observed such a case in an officer of the Belgian Congo whom I was treating in Carlsbad, and afterwards had opportunity to closely study him in Brussels during the following winter, I have come to the conclusion that this disease is due to a previous degeneration of the thyroid, in consequence of the action of the toxins of the trypanosomes upon the thyroid. As I have shown at the last German Congress of Internal Medicine, * * sleeping sickness presents all the clinical symptoms of myxœdema, at the same time also the same pathological and anatomical alterations of the central nervous system; and to make the similarity the more complete, both diseases have also a similar etiology. Myxœdema is most frequently the consequence of a previous infectious disease, and in the case of sleeping sickness this is trypanosomiasis.

The treatment of my patients by thyroid gland has produced similar amelioration, especially of the nervous symptoms, as observed in cases of myxœdema.

I should like to mention that there have been found trypanosomes in the cerebro-spinal liquid of my patient by Prof. Funk of the bacteriologic laboratory of the Brussels University.

If sleepiness is so frequent in all degenerative changes of the thyroid (and here I should like to mention, before closing this article, that Heisler has noted, in the American Journal of Medicine a few years ago, a case of catalepsy that improved by thyroid treatment), on the other hand, sleeplessness is the rule in the condition of hyperactivity of the thyroid gland; thus in Graves's disease, hyperthyroidia; also in diabetes, where insomnia is very frequent, and where, according to my investigations, the thyroid is frequently in a condition of over-activity. We can also produce sleeplessness by giving large doses of thyroid extract.

All these facts are certainly more than simple coincidences. Thus I come to the conclusion that the thyroid gland is a powerful governing factor in sleep; its degeneration produces sleepiness; its hyperactivity, sleeplessness. I am confirmed in this opinion if I take into consideration the results of my experience with the serum of animals whose thyroids have been extirpated. As I have shown, by the extensive history of the cases treated, in my book "On the Origin of Diabetes,"¹¹ and also mentioned at a meeting of the London Pathological Society in February, 1905, in every case of sleeplessness I have seen a marked hypnotic effect by the

use of the serum of animals whose thyroid has been extirpated. This has been confirmed in a discussion with me by Prof. Lanz, the former assistant of Prof. Kocher in Bern, at a meeting of the Amsterdam Medical Society for the advancement of Medicine and National Science (March 15, 1905), quoting the case of a dog kept by a peasant who took care of and fed the goats whose thyroid Prof. Lanz had extirpated in order to treat with their milk his patients with Graves's disease. Prof. Lanz told the peasant to give the milk of these goats to his dog, but after a certain time the peasant refused to continue the experiment, saying: "since the dog has been taking that milk he wants to sleep all the time, even when out walking." This we see typically in patients of sleeping sickness, who fall asleep while walking, and even fall down, injuring themselves severely.

Subsequent to my communication to the last German Congress of Internal Medicine, wherein I have shown that the thyroid governs sleep, Dr. Salmon, of Florence, in a monograph on sleep,¹² tried to show, *without any knowledge of my communication*, that sleep is governed by the pituitary body. As, however, the pituitary body and the thyroid are in close relationship, and as also Salmon mentions that in cases of tumors of the pituitary body the thyroid has been found atrophic, I am inclined to attribute the primary rôle to the thyroid. We can produce sleepiness by the serum of thyreodectomized animals, and sleeplessness by thyroid extracts, but we do not yet know any similar facts about the pituitary body.

Sleep is only one of the numerous functions which are governed by the thyroid, and in my future editorials in this journal I shall show its marvelous influence upon other important functions of our body.

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THEORY VERSUS DOGMA IN MEDICINE.

THE word *theory* in medicine has apparently, from some unknown cause, come to be misconceived by many medical men as "a doctrinal notion, asserted without regard to evidence or truth," and this being an accurate definition of *dogma*, it is evident that these two terms thus are confused. No sane person would permit himself to go on record as an advocate of dogma, with the above-given understanding of it, so it is unnecessary to decry it here; yet it is important that *theory* be better understood, and with a true conception of it, I believe it will stand upon its own merits.

With this end in view I herewith append some significant quotations from Cooke, Tyndall, and Huxley, which it is hoped will serve as a basis for differentiation between theory and dogma, that it may be appreciated that dogma is the ban of established medicine, is the greatest obstruction to its progress, and conversely that theory and generalization of accrued facts is the highway to the millennium. Cooke, in his "The New Chemistry," wrote: "Theories are means, not ends; but they are the appointed means by which man may raise himself above the low level of merely sensuous knowledge to heights where his intellectual eye ranges over a boundless prospect which it is the special privilege of the student to behold." Tyndall wrote, in his "Fragments of Science": "But out of experience in science there always grows something finer than mere experience. Experience, in fact, furnishes the soil for plants of higher growth; and this observation of action at a distance furnishes material for speculation upon the largest of problems." Huxley, in his "Science and Culture," wrote: "Culture certainly means something quite different from learning or technical skill. It implies the possession of an ideal, and the habit of critically estimating the value of things by comparison with a theoretic standard. Perfect culture should supply a complete theory of life, based upon a clear knowledge alike of its possibilities and its limitations."

These eloquent commentaries should disabuse the mind of any one as to the nature, the importance and value of theory, and also develop the fact clearly that dogma is rampant and that it is the foe to progress, which misled individuals have recognized as a retrograde factor, but unfortunately have "pulled the wrong tooth" and attributed all its mischief to *theory*.

Experience the original method of acquirement of all knowledge, is essential as a fundamental source of knowledge; but *personal* experience is not necessary to the philosopher as a basis of deduction, which, however, does require for successful results at least an admixture of *general* knowledge; and while personal experience is too narrow as an exclusive basis of computation, general knowledge (general experience) is necessary for the best results.

Theories must not only be well founded, but they must hold good as working hypotheses. In the words of Dumas: "Theories are like crutches. To find out their value we must try to walk with them." As I have heretofore postulated: "It is evident that conceptions of a subject that are only partially compatible with it, and to some extent entirely irreconcilable with it, would prove poor crutches to walk upon."¹

Generalization, another expression of the sequence of reason, is eloquently defined by Mellor:² "The scientific generalization explains the operations of nature, by showing the elements of sameness in what, at first sight, appears to be a confused jumble of phenomena. Generalization is the golden thread which binds many facts together in one simple description."

One frequently hears medical men remark that *theoretically* a given problem should work out a certain way, while, to the contrary, *practically* it turned out otherwise. Such remarks, reflecting, as they do, upon processes of reasoning, really cast slurs upon their makers' capabilities as theorists, for it is a poor theory indeed that is out of accord or incompatible with related facts. Theory is a systematic conception, connecting and making intelligible a series of related facts, or harmonizing a common subject. To formulate the theory in advance of the collection of the facts is illogical, to say the least. Such guessing does not warrant the term *theory*, and it is a disgrace to the man placing himself on record in such connections.

It is true, theories are not infrequently formulated, based upon misinterpretations of facts and upon fundamental errors of knowledge, but it argues nothing against well-founded theories, logically thought out by others. Above all, it is nothing to gloat over and publicly exploit that one has found his theories unfounded in fact.

I cannot adequately express my contempt for the man who boasts of his ability to get at facts without reasoning about them, and who expresses disgust at others who stoop to conquer by the aid of their faculties of intellect.

It is my observation that the class of medical men who decry medical theory are possessed with as well-defined theories of disease as their fellows; but notwithstanding that it is still *theory*, and often unfounded at that, it is accepted as fact, because it constituted a portion of the text of the work of an acceptable medical "authority." I allude to this to emphasize the fact that such men simply *accept*, instead of thinking for themselves. They permit other men to do their thinking for them (dogma).

There is a psychological basis for this situation. I have long observed that men of active individualities of intellection are generally, in inverse ratio, derelict

¹ A Contribution to the Etiology of Malaria. Medical Record, Jan. 21, 1905.

² Chemical Statics and Dynamics. New York, 1904.

in empirical memorizing, and, conversely, men, unduly bright students in memorizing and reciting, are inversely barren as original and analytical thinkers or philosophers.

To summarize, great students are seldom great thinkers, and great philosophers have acquired knowledge with effort, commensurate with their *original* intellectual activity and capacity.

A modern proclivity in the medical world, as an overact reaction from the domination of the *supernatural* over all conceptions of early medicine, is an attempt to be so overwhelmingly experimental as to induce them to bow down to laboratory research, limiting all freedom in the exercise of independent deductive reasoning, owing to which, certainly, rationalism is at quite as low an ebb as in the days of old.

Laboratory research, while an essential reënforcement of clinical and post-mortem studies in pathology, their separation, or the unapplied exploiting of the former, singly, is a fruitful cause of grave error. Incompatible special applications are frequently made, without an attempt at an investigation of their fitness.

We are only too frequently amazed at bacteriologists striving to have the etiology of disease syndromes settled upon parasitic organisms of *their* findings, and at their efforts to thus have all other etiological investigations suspended and the search for the ultimate nature and cause of the disease abandoned.

Few bacteriologists have concerned themselves with the chemical or physical nature of micro-organisms and their products, or in their mutations and evolutions from such slight effects as change of nature of media, temperature, light, chemicals, etc., and apparently many do not wish to have their recorded ideas of a fixed nature (the appearance, groupings, specific effects, products, etc.) disturbed.

The discoveries of the practical identity of the colon and typhoid bacilli, of the tubercular and lepra bacilli, etc., have been little mentioned, probably for the above reasons. Too little is said of the fact that many of the pathogenic organisms are constantly present in the mouths of perfectly healthy persons, in the so-called virulent state, yet there is no evidence of bacterial disease, prodromal or developed.

We are spending millions of dollars annually to keep the bacteria from our buildings, sidewalks, and streets, which, after all, are constantly present in our own mouths. Moreover, we are strenuously fighting the human propagation of bacteria, and yet in spite of our knowledge of the almost equal opportunities offered by exposed decaying garbage, manure, decaying vegetation, dead animals, etc., frequently seen in the most crowded districts, our sanitation is inconsistent, to say the least.

In spite of our knowledge that decayed food is pathogenic, tainted and putrid meats are continually sold in the large cities. No laws are enforced against the

sale of undrawn poultry, rotten eggs, tainted and putrid meats, so common with "shipped in" and cold storage products, and yet they are as productive of disease and as susceptible of detection as is the prohibited flesh of animals dead of disease.

One manifest explanation of the conspicuous failure of histologists of the present day to advance our knowledge of pathology, is their prevalent bias and prejudiced preconceptions and "set" bases of interpretation. An illustration of this bias is their persistent refusal to differentiate between embryonic and degenerate cells. Notwithstanding the fact of the relation between environment and the gelatinous state of the cell was known to biologists in Darwin's time, and that I have pointed out many specific relations between them and etiologic factors, and have identified many cells heretofore recognized as embryonic to be degenerate cells, yet no attention is paid to it, for apparently no one has bothered himself as to either the truth or falsity of my report, and *embryonic* cells are continually reported dominant in all degenerate lesions. Apparently the incompatibility of these *dying* cells being *new* cells has never occurred to these successors to Schwan, Schleiden, Virchow, Kolliker, Frey, and Stricker.

In proportion as they have gone daft on "parasitogenesis," they have neglected other etiologic factors, and thus etiology has suffered in inverse ratio to the overgrowth of bacteriology.

Without doubt the present antipathy against theory, of many scientific men, is due to the well-remembered conflict between religion and science, in which evolutionists had to tear down so much conflicting preëxisting dogma, long maintained by theologians, metaphysicians, and philosophers, as logical deduction, from what they regarded as well-grounded fact. Conversely, the above-named, acting as obstructionists to the progress of evolution, excited considerable feeling against the evolutionists as theorists of ungodly and unphilosophic ideas, as based upon materialistic, as distinguished from supernatural and metaphysical foundations.

Moreover, great numbers of inconsistent and incompatible speculations, in regard to physiology and pathology, based upon too limited and isolated experiences, and some entirely unfounded, have been recited to the profession, which, in the absence of thought and generalization, have actually retarded the attainment of truth. For example, Dr. Still has recently written of his "theory" of spinal subluxation as the basis of osteopathy, which was arrived at as the result of a meagre education and a small country experience as a practitioner. Notwithstanding that he dignifies his hypotheses as *theories*, scholars quickly brand them as *dogma*. "Mother" Eddy has found it convenient to borrow from legitimate psycho-therapy a few fundamental truths, and to have contaminated them with amendments of the most remarkable fallacies and dogmas. Fortunately they are too divine to be theories, so her air-castle superstructure, "Christian Science," need not nettle the scientific critic as a reflection upon theory as a sequence of scientific

deduction. It is to be observed that some dogmas are not innocent errors, but, on the contrary, are crafty creations of individuals with motives, and intended to serve definite purposes of their designers.

Isolated experience and individual observations interpreted apart from *general* knowledge and experience is a most common and prolific source of error and misleading deductions, and thus at variance with those of men of wider knowledge and riper and more *general* experience. This is the reason why men of wide learning and scientific acumen arrive at conclusions so widely diverse from independent individual observers. Marine and other laboratory physiologists, in ignorance of human physiology and pathology, are at as great a disadvantage as are physiologists and pathologists who are ignorant of their work.

Since the publication of a most commendable article advocating the development of *applied physiology*, by Dr. J. M. Taylor, of Philadelphia,* two organizations of New York men identified in these allied sciences have been formed for the purpose of exchanging knowledge and thus leading to the perfection of theories of general compatibility.

There would be more universal unity and compatibility of professional opinion, if our interchanges on personal experience and interpretations were more widespread than they now are. We have current and book literature and societies for the attainment of this end, which all have their values, but still there is not enough of individual participation in the discussions of great problems, and not enough of that wholesome expedient for the attainment of ultimate perfection, that of setting forth the observations and interpretations and deductions for universal friendly "thrashing out," upon their own merits and absolutely free from all bias or prejudice of preconceived notions. All true physicians should lay aside all semblance to personal, race, national, and religious jealousies and hatreds, together with that blindness too often associated with the reception of the postulates of men of cherished repute. All medical contributions should be weighed on the same altar, with the same scales and intelligent sincerity.

Let us then, henceforth, cultivate a more analytic and discriminating mind, yet essentially a spirit of fairness, toward those who struggle to interpret and coördinate facts into real knowledge capable of practical application. To such instruments medicine must turn, to deliver it out of its present chaotic and incoördinate jumble, from the conflicting and incompatible conglomeration of laboratory and individual research and observation, and for a correction of the inconsistencies of administrative hygiene.

HOMER WAKEFIELD.

* *Physiology the Basis of Clinical Medicine; Suggestions as to Courses in Applied Physiology.* Medical News, May 13, 1905.

THE VALUE OF THE ROENTGEN RAY DIAGNOSIS TO THE GENERAL PRACTITIONER.

THE value and importance of a diagnosis by the Roentgen method to the general practitioner is possibly greater than to the surgeon, for it often confirms his diagnosis and renders it possible for him to treat his own patient without further aid, and determines those cases in which operative intervention is indicated. Its value as a method of diagnosis has been well established, and is fully recognized by all progressive surgeons and modern text-books on surgery. The attempts to belittle its value and accuracy have been futile, and have been shown to proceed from a desire to escape from the consequences following neglect to employ it, if malpractice suits should arise. The opinions of the courts already recorded show undoubtedly that failure to employ this method of diagnosis will constitute sufficient evidence of negligence, in cases where it should and could have been employed, upon which to assess damages. In some cases its use is impractical, because the patient cannot be brought for examination, or afford to have the apparatus brought to his bedside. In the vast majority of fractures, all except those of the thigh, pelvis, and spine, the patient can be brought for examination. This examination reveals the most minute details of the osseous injury, and furnishes not only the greatest assistance in setting the fracture, but also absolute evidence of the seriousness of the injury sustained. A skiagraph taken after the fracture has been set and bandages applied is absolute evidence that the setting was accurate and the fixation dressings effective.

Greater accuracy in diagnosis has been demonstrated, by the detection of supposedly rare fractures in ever-increasing numbers. This is especially true of intercapsular fractures and linear fractures that involve joints. Undetected, they lead to loss of function and stiff joints, and were formerly called "bad sprains." Their early detection by this method not only enables a guarded prognosis to be given, but also helps the physician to employ methods that will correct the tendency to stiffness. Many bad sprains of the wrist and ankle are undoubtedly undetected fractures, while a contusion or wrench of the elbow has often resulted in stiffness and loss of function. The elbow, the ankle, and the wrist are the seats of most intercapsular fractures and most frequently suffer loss of function. They always demand a complete diagnosis by the Roentgen method to avoid this danger. Injuries of the smaller bones, the tarsal, carpal, metatarsal, metacarpal, and phalangeal bones, often escape detection because of the size or situation of the bones, and should all be subjected to Roentgen examination.

The completeness and accuracy of this method of diagnosis makes it unnecessary to follow the antiquated teaching of treating any suspected fracture as if it

were one. It may not at the moment be as remunerative to the attending surgeon, but it saves the patient's time, suffering, and expense, and makes him grateful and appreciative.

The general practitioner must realize the advantages of this method of diagnosis to his patient; he must see that the surgeon who neglects its use, neglects his interests and those of his patient; while he must feel that with its aid in diagnosis, he can himself treat with accuracy and an assurance of success many more of his patients than he otherwise would. He assures his patient of accurate treatment by its employment, and procures for himself absolute evidence that his work was properly accomplished. The best results can be obtained by bringing the patient before any attempt has been made at reduction, as the knowledge gained prevents unnecessary trauma and manipulation, thereby greatly facilitating bony union and avoiding the danger of ununited fracture. It is particularly important to have all children examined by this method, as separations of an epiphysis often simulate a dislocation and are very difficult to detect.

To obtain accuracy in results and the full benefit from the examination, the practitioner must insist that the examination is made by a qualified experienced practitioner. A picture is not what is demanded; he must insist upon a diagnosis full and complete, and a valuable diagnosis can only be made by a well-trained, experienced physician. A valuable diagnosis cannot be made by an electrician or a manufacturer's assistant, and the majority of erroneous diagnoses that have been made, have been due to such causes, or to the inexperience of the operator, and not to inaccuracy or defects in the method itself. Many errors have been made by relying upon the fluoroscope and the image seen upon it for a diagnosis. Such examinations are valueless; they give no detail and no black-and-white evidence of the condition present.

The practitioner must insist that a skiagraph or picture on a photographic plate be taken in every case upon which a diagnosis can be based. This must be made and read by an experienced operator and is the evidence which must be preserved. It, together with a similar picture taken after the fracture is set, are the absolute evidence that his work has been properly done, and as such must be carefully preserved.

In addition to its importance in diagnosing fractures and dislocations, and sprains from these, it is of great value in differentiating joint disease and joint malformation from each other and from dislocations. Tubercular disease of the hip or a congenital luxation is often impossible to diagnose from coxa vara or congenital malformation. The accurate diagnosis by this method places the practitioner in a position to apply rational treatment himself, or to call in the operating surgeon if necessary. Bone necrosis and its extent can be determined accurately,

and the indications for treatment by the physician or by operative intervention will be shown.

In internal medicine the field of application is continually widening. The detection of aneurisms when small often leads to successful treatment, while the study of the tubercular lung, notes and records the state of the disease so accurately that it can be compared at a future time, to determine the efficacy of treatment or the necessity for a radical change of climate.

Probably the most valuable application in internal diagnosis has been in calculous conditions of the kidneys and ureter, where a diagnosis can be established earlier and more accurately than by any other method. This is particularly of advantage to the general practitioner, as it permits him to treat his patient in safety by medical means where no stone is present, or only a small one that will pass without surgical intervention. The dangers of anuria bilateral and unilateral are real. After an attack of renal colic the symptoms may subside, either because the calculus has become quiescent, *i.e.*, fallen back into the pelvis of the kidney, or because the ureter has become occluded by the stone and a unilateral anuria has followed. Cessation of symptoms from this cause means the destruction of the kidney. A differentiation cannot be made by the symptoms, and only by the Roentgen method detecting or excluding a calculus, or by a cystoscopic examination that shows a bilateral urinary flow, but does not tell whether a calculus is present or not.

The establishment of the diagnosis, after an attack of renal colic, by this method is the only method of insuring safe and rational treatment. If the calculus is too large to pass, it must be removed by operation; if it will pass, or there is none present, rational medical treatment can be carried out by the general practitioner.

As the result of examinations for calculus by this method, ureteral calculi have been found to be more frequent than renal, and at least 50 per cent. of all cases can pass the calculi without operative intervention. If the expectant treatment is made reasonable and safe by this accurate method of diagnosis, these cases can be treated by the family physician, unless symptoms arise that demand immediate operative intervention, and then that intervention is localized to the exact seat of the calculus. The author has had twenty-eight cases that have passed their calculi after he had detected them, and suggested the employment of expectant treatment. Not only does this diagnosis permit the treatment of appropriate cases safely by expectant medical treatment, but it also increases the accuracy of the operation and decreases the necessary amount of trauma. No case of suspected calculus should be treated without this diagnosis to safeguard it from danger, and no case should be operated upon without the comprehensive knowledge it gives of the actual condition present. The early detection of calculi by this method is of

the utmost importance to the patient, as its early removal, if necessary, prevents serious damage to the kidney.

This brief review shows the great value and importance of this method to the general practitioner and his patient. It guarantees such accuracy in diagnosis that he must insist upon its employment in every case to safeguard his and his patient's interests. Thus, with both protected, he can himself treat many more of his own patients and determine readily when operative intervention is necessary. The value of this method of diagnosis, when accurately applied and correctly interpreted by a skilled operator, is so great and so evident that he will insist upon its employment for all his private patients, as it is employed routinely by the best hospitals and most advanced surgeons.

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PROFESSIONAL COMPENSATION.

THE physician is often dissatisfied with the rewards of his toil. He observes what seem to him inconsistencies in the form, manner, and rate of his remuneration. He often thinks he is not paid in proportion to his labor, his responsibilities, his special training.

No one should adopt the profession of medicine as a business. The first and most potent consideration in undertaking the lifework of a physician should be the unselfish one of helping those in physical affliction. The best means admittedly of doing so is through the study of preventive medicine. There are plentiful methods open to all of acquiring money honestly; never more so than at present. Development of natural resources seems to be at a maximum, even on the confines of what is termed civilization, and human powers to accomplish this, and to place the output in the most favorable markets, are sufficient. Not only so, but the devices of transportation, of the diffusion of commercial knowledge, are so ample that the chief factor in trade, viz., knowledge of markets, whereby excess of production can be most judiciously placed, reducing loss and amplifying gains, was never so well systematized. Hence we have the common spectacle of millionaires in most localities, or at least those who possess far more than they can possibly make rational use of. Many of these rich people recognize certain responsibilities to their fellow-man, not the least of which is to provide means of research in medical lines, and to spend large sums in providing safeguards against preventable diseases. It is not too much to expect that in the near future the standing disgrace to our civilization, the existence of preventable diseases, will be made to cease. If so, the agency will be in chief part wise individuals endowed with large fortunes.

To be sure, the State will, or should, always play the chief rôle, but judging from the records of current legislation, little is to be expected from governmental regulations or provisions till the material of which legislators are made becomes less venal and more wise. What, then, is the largest ground of hope for the best resultants or products of medical science? Clearly the better *education of the community* in matters of medical ethics, the mutual relationship of practitioners and laymen. The opportunity of the medical profession, the highest aim for which they can strive, is to preach unceasingly that *disease can and shall be limited, prevented, made to cease.*

In accomplishing this, their occupation would seem to end. That day, however, is far distant. The first principle of commerce is to increase the demand for products; to amplify the opportunities for supply. Supply is always forthcoming.

Clearly this is contrary to the plainest concept of the healing art. However, if it be true that a fool is born every minute, something revolutionary must be attempted from the standpoint of embryology. While the postulate may stand that disease, the outcome of folly, is self-limited, not so the supply of foolishness whereby disease prevails. Meanwhile, in every community composed of average human beings, there must be supplied guides in physical conduct who shall be equipped with both knowledge and forcefulness, and who, if possible, will be of ample authority, direct or vested, who not only shall succor the lame, the halt, the diseased, turn the fool from the rich deserts of his folly, but also exercise an inhibitory influence upon the acts of the unwise, both individual and joint, and throttle health-destroyers—human or demoniacal—in their lairs.

In the doing of this, in the pursuit of his chosen line of duty, the physician has great need to possess large capacities, powers, wisdom, and knowledge. Furthermore, he must be ready to give his undivided attention to a quest which, while perfectly possible of attainment, has never been near realization. To fit himself for his lifework requires exceptional traits, years of training, and the ceaseless exercise of judgment night and day. He also must live; he has a right to the enjoyment of equal privileges and emoluments with the man who tills the ground, digs the ore, or sets choleric human savages by the ears to their own undoing and his financial betterment, or the one who manipulates the market whereby lambs yield their fleece. It would indeed seem that all his patience, his years of dangerous toil, ought to be highly rewarded. Health and life are, especially in the hour of great peril, for a brief period regarded as of more account than mere material acquisitions. Furthermore, physical efficiency conditions mental efficiency, and this, when once imperilled, limits the earning powers, and to acquire this is therefore worth a fair proportion of the money which is being then earned.

All which tends to show that a capable, conscientious, experienced medical adviser is a boon to any community, and should be provided with full returns for his labor, time, skill, and strength. Not only so, but when once his capabilities are demonstrated, his experience ripened, his earning capacity ought to increase, not lessen. He gives his time and energies freely to the very poor. The rich man, who has more than enough, should pay in proportion to his means. It is claimed by some that the fees should be fixed at a maximum, and made less for those who are unable to pay the highest. The nature of service varies widely; ordinary medical attention may be put upon this basis, but not that special service whereby large difficulties are overcome. Where the physician is aware that he has accomplished much in face of almost insuperable obstacles, he has a right to claim more than for simpler every-day attention. Specialization is not an unmixed good. Oneness of purpose develops knowledge and power in narrow lines, but impairs breadth of view. The general physician who gives the same earnest effort to the whole field of his art, as done in his narrow sphere by the specialist, is the more valuable member of the community.

There is valid ground for complaint by general practitioners against certain specialists for demanding what seem excessively large fees. Yet this demurrer should not hold for maximum fees commonly received, or where full agreement is entered upon. It does seem unfair that some should get vast sums (in comparison with others, not with other lines of expert professional advice) for service closely analogous to that rendered by the general practitioner. Particularly are surgeons denounced by internists for securing fees far larger than the public customarily pays them. There are many good reasons for this, however, which I, a simple internist, fully appreciate, and will briefly allude to later. The main point in the discussion is this: If a patient makes up his mind he must have the advice of this or that specialist, in conference with his family adviser, where he would be safe, or independently by chance conferences with those who cannot know, but only guess, then the specialist should be paid for that preference. If the patient takes counsel with his regular adviser, and they two confer together with the specialist, good must come of it, by coöperation, harmony in recommendations, consistency of procedures, hence desired results. If the patient assumes the responsibility of making his own choice, not bringing in his trustworthy customary adviser, there cannot be the same consistency in action, nor the same good effects.

The public do not rightly appreciate the value to themselves of professional ethics. They smile at what seem to them ethical absurdities. They estimate their own shrewdness too often as superior to all such altruistic considerations; they "know what they want" and proceed "to buy it," often at an outrageous price, of no practical value, often followed by disastrous results due to omissions of invaluable data possessed only by their family physician, ignored in the transaction.

The man of practical affairs, he who, as he boastingly claims, "knows men and values," should at least know this much; the best medical advice is beyond price, it is the basis of all economics; with health, earning is possible; without health, earning is doubtful in kind and degree. To conserve bodily and mental fitness requires expert, wise, consistent professional counsel. That counsel is best which includes experience, deliberate ample observation, the product of years. To consult a specialist because of his fame or by accident of some "friendly advice," to present one's own views on one's case, and one's own history, is a partial, limited, often inaccurate procedure, perilous from omissions and misrepresentations. The best results in professional problems, as elsewhere, come from coöperation, full enlightenment, well-digested counsel.

Again, the pursuit of medicine, involving as it does much self-abnegation, immolation on the altar of duty, of occasion, and of the troubles of others, impairs in its exponents not only health but the financial sense. Moreover, the prejudices of the community are quick to press upon a physician who attempts to do business outside the strict line of his vocation. Hence his opportunities to achieve a fortune are few and poor. When in the fullness of his powers, ripeness of his judgment, the physician is right to charge as large fees as he is capable of getting. He should not be deterred from doing so by the competition of those whose abilities are manifestly less. The community owes him protection, appreciation, and fair rewards.

The form of competition forced upon medical men is humiliating. We are in no sense rival tradesmen, nor artisans. We are trustees for the life and health of the community. Our function constitutes the base or capstone of economics. The world is gradually awakening to this conviction.

The apparent conflict between the specialist, especially the surgeon, and the general practitioner is chiefly due to the fact that *the public are not taught emphatically enough to value good medical advice*. Nine-tenths of all medical practice depends for its efficacy on a fair estimate by the patient of counsel in right living, in conduct, in making the most economic use of what is possessed, of constitutional integrity, organic capacities. This should be the propaganda of every physician at all times. There are so many factors, direct and collateral, in this proposition of conservation of energy that it requires the utmost care of each one, the frankest coöperation with specialists when obscurity arises, always consistency, patience, persistence, to attain the best results.

Why is the surgeon invading the territory of the internist increasingly? Chiefly because he is more definite in his findings and recommendations. Does this make him a safer guide? Only when his point of view, so largely mechanical, is wisely revised by accurate estimation by the internist, the general practitioner, on the ground of collateral factors, pathologic and clinical.

One final word as to how professional fees may be regulated. An incident was related to me recently, affording a most practical suggestion which may well be followed by most communities. In a certain town, prosperous enough, the physicians found that, owing to the force of circumstances, they were compelled to reduce their fees to such a plane that it became impossible for them to earn a livelihood; their families suffered grievously.

They, by joint action, called a meeting of certain leading experienced business men, and laid the matter frankly before them. A committee was formed of these gentlemen, and the whole subject fully ventilated. These men of practical affairs were asked to decide what were reasonable fees for that locality.

From these conferences a fee table was prepared, exhibiting a maximum and minimum scale for ordinary conditions. Below the lowest scale the committee advised to give advice gratis. This is a most admirable plan, strengthening the hands of the profession in all ways. Conditions in different towns must differ and can thus be best met.

J. MADISON TAYLOR.

Cyclopædia of Current literature.

ACETANILID POISONING, CHRONIC: TREATMENT.

The gradual withdrawal of the acetanilid is advised by the authors, in the treatment of the chronic poisoning. Temporary substitution of codeine for pain or sleeplessness, and the use of tonics, will result in recovery. Attention to the stomach and bowels is important, as on good digestion largely depends the power of blood repair and the return of weight and strength. Much can be done in the way of suggestive treatment by sympathy and encouragement. Even in the most desperate cases, therefore, one may give a fairly hopeful prognosis. J. B. Herrick and E. E. Irons (Journal of the American Medical Association, February 3, 1906).

ANGINA PECTORIS AND AN ARTERIAL REFLEX OF ABDOMINAL ORIGIN.

The author records his observations regarding an arterial reflex having its origin in the abdomen, the importance of which he thinks has not been fully appreciated. While the active processes of digestion are going on, there is an influx of blood into the splanchnic area. This drainage into the abdominal vessels is balanced in the general circulation by a systemic arterial contraction, evidently a reflex phenomenon originating in the splanchnic system, passing to the vasomotor center in the medulla, and then transmitted to the systemic arteries. The changes in the systemic arteries are a reduction in size and an apparent thickening of the arterial wall. The degree of these changes depends on the

kind of meal which has been taken. In the big eater and the wine-drinker the arterial contraction is associated with a rise of blood-pressure and a true increase of arterial tension. This reflex varies in delicacy in different persons. It exists in all. The author is convinced that there is a relation between this phenomenon and angina pectoris, and cites several instances in support of his contention. He shows that this hypersensitiveness of the vasomotor center, even in grave angina pectoris, can be reduced, controlled, or even removed by dietetic measures, with the result that the anginous seizures are removed or greatly modified. In cases where the arterial spasm is associated with great anatomic change, either in the myocardium or in the coronary vessels, absolute cure can hardly be looked for; but in all cases the symptoms of angina pectoris may be much ameliorated by conducting the treatment in accordance with what they indicate. Owing to the varying degree of intensity of the symptoms, the writer suggests that in classifying the cases, the simplest distinction might be found in the terms angina pectoris major and angina pectoris minor, the former being confined to those cases in which there is believed to be permanent anatomic change in the heart or its vessels. W. Russell (*British Medical Journal*, February 10, 1906).

APPENDICOSTOMY.

A case of ulcerative colitis is reported by the writer which was treated by irrigation of the large intestine through the appendix, which was brought to the surface of the abdomen, fixed there, and opened—the operation being termed appendicostomy. The operation is a very simple one and no disadvantage or discomfort follows its performance. A full-

size, soft rubber catheter passes down the appendix into the cæcum without the patient being conscious of its presence; no regurgitation or moisture comes from the stump. The sphincter at the cæcal end of the appendix grasps the catheter firmly, and closes completely after its withdrawal. The adventitious opening can be closed with ease and certainty after it has ceased to be of use.

The possibilities of the operation may be considered under four heads: 1. As a means for the treatment of certain conditions of the large and small intestine, such as mucous colitis, dysentery, chronic constipation, ileocæcal intussusception, and ulceration of the colon, syphilitic and otherwise. 2. As a means of treatment of certain forms of intestinal distention, occasionally met with after abdominal operations in very toxic cases and in connection with some acute diseases, *e.g.*, pneumonia, which drugs seem powerless to affect, the distention being apparently due to a toxic paresis. 3. As a means of administering nourishment, and an alternative to the rectum for that purpose. Rectal feeding is not infrequently painful, and, in sensitive patients, repulsive. Further, the higher up in the bowels an instrument is introduced, the greater is the proportion absorbed for purposes of nourishment. 4. As a substitute for cæcal colotomy. W. H. Bennett (*Lancet*, February 17, 1906).

ASEPSIS, MAINTENANCE OF.

The belief is expressed by the author that antiseptics, with the possible exception of 60 per cent. alcohol, should be absolutely foresworn in the disinfection of living tissues and in the operating room. Corrosive sublimate requires time for the penetration of the capsule

of pathogenic organisms. As a mere rinsing solution, it is no better than sterile water. Moreover, it may irritate delicate tissues. Several incidents are mentioned as occurring in the course of operations, which completely nullified elaborate aseptic precautions previously made. None of these occurrences have done any serious harm to the patients in question, but they were full of possibilities for evil, and if left uncorrected would have placed an additional tax upon the patient's powers of resistance. He moreover declares his belief that, since the establishment and maintenance of absolute asepsis are impossible to living tissues, the so-called "reaction" temperature seen on the post-operative charts of surgical patients is, in the vast majority of all cases, especially those in which no demonstrable degree of surgical shock obtains, neither more nor less than an index of the amount or dose of infectious material introduced. Consequently, surgeons, having learned how to acquire a practical degree of sterility in connection with operations, should learn how to maintain that sterility to the very end of its need. D. H. Craig (New York Medical Journal, January 20, 1906).

BASEDOW'S DISEASE, HEAD JERKING IN.

A number of authors have recently published observations on a symptom of Basedow's disease, consisting in rhythmical jerks of the head, sometimes anteroposteriorly and at other times laterally. The explanation for this symptom, as given by the writer, is as follows: The vertebral arteries describe two curves before entering the cranium through the occipital foramen. These curves, under the influence of the wave of blood that passes through the arteries at each systole, tend to straighten out and

transmit an impulse from below upward to the occiput, very close to the fulcrum represented by the vertebral column. During each systole, therefore, the head is moved from behind forward. As regards the movement from left to right, the probable cause of this is a diminished pressure in the right carotid, owing to the greater development of the right thyroid to be observed in the cases in which lateral jerks occur. This asymmetrical development of one lobe is frequently noted in exophthalmic goitre. When the two factors exist together there is an oscillation of the head from right to left and from before backwards. The symptom in question is undoubtedly useful in the diagnosis of Basedow's disease. Bocciardo (*Gazetta degli Ospedali e delle Cliniche*, January 28, 1906; *New York Medical Journal*, March 3, 1906).

BONE DISEASE IN CHILDREN, ACUTE.

The author describes acute inflammation of bone, as it occurs in children, as an acute, dangerous, obscure affection. The new bone at the growing end consists of tissue of great physiological delicacy, and is, therefore, more likely to be the seat of traumatic inflammation and disease generally, than is any other part of the bone. Grave errors in diagnosis are frequent; the disease is often mistaken for acute inflammatory rheumatism, or, when the cardiac valves are affected by the subsequent pyæmia, for primary endocarditis. Some of the symptoms superficially resemble those of typhus, typhoid, or even of delirium tremens. The condition is also sometimes mistaken for erysipelas. The presence of deep-seated tenderness over the bone is the one characteristic symptom. Owing to the fact that two of the last epiphyses to join on are the

knee ends of the femur and tibia, this is a favorite site of septic osteitis. Out of 165 cases the femur and tibia were implicated no less than 130 times, these bones being the most exposed to injury. Although there is a good deal of swelling about the knee, there is no actual effusion into the joint itself. Delirium is one of the most characteristic features of the disease, and is evidence of very serious septic intoxication.

Operation is the only treatment; it is imperative that it be done as early as possible; the bone should be opened before the abscess has formed. In a large proportion of cases of acute osteomyelitis of the lower end of the femoral diaphysis, amputation has sooner or later to be resorted to, because of great increase in the local symptoms and violent constitutional disturbance. It must be recognized that the disease is one of the bone itself, and not of the periosteum. It is common for one or more joints to be seriously involved, either directly or by septic infection. As regards the value of antistreptococcal serum, the author is very doubtful.

It is a most powerful agent, and its injection into a patient causes so much shock that his temperature at once drops, perhaps never to rise again. E. Owen (British Medical Journal, February 3, 1906).

CARBOLIC ACID POISONING, VALUE OF ALCOHOL IN.

The authors find that alcohol has a local antidotal effect in carbolic acid burns, due to its solvent action. There is no evidence of chemical antagonism between alcohol and phenol, and there is no effect produced by alcohol in carbolic acid poisoning after the latter has been absorbed into the system. Alcohol and phenol placed in the stomach

give no different results from phenol alone, while lavage with alcohol is effected when the phenol is in the stomach, but its superiority over lavage with water is pronounced. From the clinical aspect it appears that alcohol has a local antagonism to carbolic acid. The procedure recommended is immediate, abundant lavage with 10 per cent. alcohol, to be followed by lavage with plain water, and stimulation with strychnine and digitaline, eggs and milk with magnesium phosphate. The point to be borne in mind is that alcohol is not effective after the carbolic acid has been absorbed, and to be of value must be used while the poison is still in the stomach. T. W. Clarke and E. D. Brown (Journal of the American Medical Association, March 17, 1906).

CEREBRO-SPINAL MENINGITIS, TREATMENT OF.

The treatment of this affection, according to the author, consists in diminishing congestion, in taking means to prevent or to relieve cerebral or spinal pressure, and in combating all acute symptoms and complications as they occur. He says that the administration of diphtheria antitoxin in cerebro-spinal meningitis is theoretically unsound and practically a failure. Spinal puncture is indicated when there is cerebral pressure, but he is in doubt as to whether or not it is indicated for diagnostic purposes, except in rare instances. The almost constantly beginning sore throat should be treated with antiseptic gargles and sprays, none better, he thinks, than the hydrogen peroxide solution. Conjunctivitis should be treated with simple boric acid solution. A calomel or saline purge should be given, and painful joints should be wrapped with cotton and kept warm. Pain should be

stopped with morphine, by the mouth or hypodermically, depending on the intensity. If the pain is not severe and there is no vomiting, and if the pulse is good, bromides or chloral may be administered for the first two or three days. To quiet cerebral excitement and delirium, and to intensify the action of the morphine which must be given, the writer believes that there is nothing that will compare with ergot, given intramuscularly or subcutaneously. The frequency of its administration should be about once in six hours, unless there is great cerebral excitement or the pulse is bad. The ice-cap to the head and the spinal ice-bag are necessary. If the temperature is subnormal or the surface of the body is cold, dry hot applications are of advantage. The general care of the patient should be the same as in typhoid. The writer is convinced that ice, ergot, and morphine will save many patients from death from this disease. Alcohol, strychnine, and quinine are contra-indications, although the first two are permissible in an emergency. O. T. Osborne (New York Medical Journal, February 17, 1906).

CERIUM OXALATE IN VOMITING.

Within the last few months the writer has been using cerium oxalate largely in cases of vomiting due directly to gastric disease, usually giving six-grain doses three times a day in adult patients, combined with ten-grain doses of carbonate of bismuth. In almost every case the result has been most satisfactory, and in several instances, when bismuth alone has failed to cause any marked improvement, a rapid change for the better has appeared when cerium oxalate has been added to the medicine. In gastric ulcer the pain is relieved and

the vomiting ceases almost immediately; the same result occurs in chronic catarrhal gastritis, especially the form which is so common among badly nourished young women, whose work deprives them of their proper quantity of fresh air. In cancer of the stomach, although a permanent cure can not be expected, the symptoms are relieved and the patient's life is prolonged and made far more comfortable than by any other means; the pain is lessened, hematemesis ceases, and the patients who have been unable to retain the smallest quantity of food taken by the mouth are soon able to retain several pints of milk per diem, and also small quantities of the prepared farinaceous foods. This, of course, does not hold good in cases in which the pyloric region is largely involved and in which the symptoms are mainly due to a mechanical obstruction of that opening. C. A. Sweetnam (Dublin Journal of Medical Science, February, 1906).

CHLORIDE OF CALCIUM AS A PREVENTIVE HÆMOSTATIC.

The author reports favorably on his experience with the use of chloride of calcium administered internally with the object of arresting or restraining bleeding in surgical operations. The mode of administration is very simple, this agent being very soluble in water and readily tolerated by the stomach. It is well to bear in mind, however, that it is incompatible with milk. Often two days before the date of operation, and always on the preceeding day, the patient is supplied with a solution containing three grams of the chloride, of which fractional quantities are taken during the twenty-four hours, the last dose being used a few hours before the

operation. The author has tried this method of hæmostasis in operations for circumcision and for hypospadias; in internal urethrotomy, radical cure of hernia, hæmorrhoids, varicocele, hydrocele, appendectomy, ingrowing toe-nail, skin-grafting by Thiersch's method, and osseous suture. It is stated that, notwithstanding individual differences which occur, in spite of the use of chloride of calcium, a very large majority of the patients observed by the author benefited from the action of this agent, and that the coagulability of the blood was distinctly increased in all. There was never any necessity to interrupt the operation for more than a few seconds in order to clear the wound of blood, and in many instances the gauze pads were used for removing clots and not liquid blood. It was not found necessary to pack the wound after the operation in order to prevent recurrent bleeding. The number of buried ligatures was much reduced, and in some cases not a single vessel was tied.

The author states that after the use of chloride of calcium he has never observed any post-operative hæmorrhage and deep-seated collections of blood, even in parts such as the scrotum, penis, and perineum, in which accidents are likely to occur. In conclusion, the author gives it as his opinion that chloride of calcium administered internally acts as a harmless and simple preventive against free bleeding, and at the same time is not less efficient than other hæmostatic agents—heat and gelatine, for instance—which either cause much local irritation or expose the patient to the risk of infection. Toubert (Bull. et Mém. de la Soc. de Chir., No. 1, 1906; British Medical Journal, February 17, 1906).

CHOLERA, REMEDY FOR.

Inspired by Koch's statement that quinine in $\frac{1}{1000}$ to $\frac{1}{2500}$ solution destroyed the cholera germ in from ten to thirty minutes, the writer used the drug in the treatment of cholera, giving ten-grain doses every hour till bile reappeared in the stools; from 40 to 80 grains having been given. While under the old treatment nearly every case was fatal, under this medication 90 per cent. of the patients recovered, including some who were almost moribund. The routine method is described as follows: Quinine sulphate, 10 grains every hour till ricewater stools ceased and bile reappeared; sweet spirits of niter, dry cupping, heat, and friction for suppression of urine; saline injections when the wrist pulse had disappeared (some of these patients recovered under the quinine without injections). Occasionally a diarrhœa mixture was employed if intestinal irritability continued after the reappearance of bile. If irritability with foul odor persisted, a mixture of equal parts of sulphophenolates of zinc, calcium, and sodium was used at intervals of from two to four hours. C. D. Ussher (Journal of the American Medical Association, February 3, 1906).

CIRCULATORY DISORDERS, STRYCHNINE AND NITROGLYCERINE IN.

The writer notices the mistake that is made sometimes in the use of these remedies in cases of circulatory disorder. He describes the mechanism of blood-pressure, both in the general circulation and in the heart. Strychnine, acting on the vasomotor center, constricts the arterioles, causing a rise of blood-pressure and a better coronary circulation, a better nutrition of the heart, and a more efficient systole. Only exceptionally does it so stimulate the

inhibitory vagus center as to produce no rise of arterial tension. Nitroglycerine, on the other hand, he states, dilates the arterioles, lowering blood-pressure and aiding the heart by reducing the resistance against which it works. The two drugs are directly opposed to each other in their action on the circulation, and when one is indicated for its therapeutic effects the other is contraindicated. Strychnine is called for when there is a low blood-pressure, a rapid heart, and bounding and easily compressible pulse; nitroglycerine is indicated when the arterial tension is high, the heart rates low, the pulse full and tense, and the wave very slight. In case of muscular degeneration of the musculature of the heart, the signs may be slightly different from the above. O. H. Brown (*Journal of the American Medical Association*, January 13, 1906).

COMMON COLD, TREATMENT OF.

In the experience of the author, the quickest relief in case of a common cold is obtained by giving 30 minims of sweet spirits of niter and 30 drops of aromatic spirits of ammonia in 1 ounce of water, repeating the dose in two and then every four hours. Three or four doses are generally sufficient to put a stop to the discharge. Should the discharge happen to be thick when first seen, then a snuff composed of 1 grain of cocaine, 2 grains of menthol, and 100 grains of boric acid quickly effects a rapid cure. When the cold has run down into the trachea, as shown by a tickling of the throat whenever a long breath is taken, then a mixture of liq. ammon. acet. 5ij, sp. ether. nit. *mx* in 1 oz. of water, every four hours, rapidly gives the required relief. F. P. Atkinson (*British Medical Journal*, January 6, 1906).

CYANOSIS, ENTEROGENIC.

Six cases of cyanosis, dependent on the absorption of toxic products from the intestines, are described by the authors. These cases could be divided into two distinct types. In one set the blood gave the spectrum and chemical properties of sulphohæmoglobin, while in the other genuine methæmoglobinæmia was present. In the cases of the former class the condition was promptly relieved by a thorough course of intestinal purgation; and in the others the cyanosis would disappear after one or two days of rigid milk diet, to return again when vegetables were added to the regimen. After considerable time had been spent in experimentation, it was discovered that the cause of the reduction of the hæmoglobin was the presence of nitrates in the blood, probably dependent on their increased production in the diseased intestinal canal. Vander den Bergh and Grutterink (*Berliner klinische Wochenschrift*, January 1, 1906; *Medical Record*, January 27, 1906).

DIPHTHERIA, TREATMENT OF.

The writer believes that the very slightest excuse should be sufficient for the diagnosis of diphtheria in a child. Even so slight a sign as dryness or a parched appearance of the external nares in a child who seems poorly nourished is sufficient to indicate, in most cases, that diphtheria toxin is being manufactured, probably in the nasopharynx. The author holds that diphtheria antitoxin never does any harm to a child, and that it will assist in curing illness due to some disturbance in the throat or nasopharynx, even if that illness is not actually due to diphtheria. The time lost by delay in giving antitoxin in diphtheria is often sufficient to

render the chance of recovery very small. Though many experienced workers in the field of infectious diseases insist that very large doses are much more efficacious than small ones, sufficient stress is not laid on the fact that small doses, even though given late in the disease, will often just turn the scale in favor of the patient, or at least assist the patient to fight the disease and to hold it in check until the child can be taken to a hospital, where more antitoxin can be given. If every general practitioner would carry a syringe and one phial of antitoxin, much more antitoxin would be given before the child is removed to the hospital; the necessary delay in getting the antitoxin at present, and the difficulty, sometimes, in obtaining it, especially in country districts, being possible reasons why this treatment is not adopted immediately in all cases. T. B. Rhodes (*British Medical Journal*, February 17, 1906).

DISPLACEMENT OF THE HEART, RHYTHMIC LATERAL, AS A SIGN OF UNILATERAL PLEURITIC EXUDATE.

A rhythmic lateral movement of the heart occurs in unilateral liquid pleural effusions. Such movement is most marked in medium-sized effusions. The heart approaches the affected side in inspiration and moves outward in expiration. The extent of movement is variable, but often amounts to two inches. It may be measured by fluoroscopic examination, auscultatory percussion, or, in the case of right-sided effusions, by simple deep percussion of the free cardiac border, or in some instances by mere inspection of the apex beat. Deep breathing, and especially forced expiration, are essential to the success of the manœuvre, and to obtain this morphine

must sometimes be administered. Marked rhythmic lateral movement has not been found in pneumonia, tuberculous infiltrations of the lung, malignant disease of the pleura or lung, or in sub-diaphragmatic abscess. C. L. Greene (*American Journal Medical Sciences*, March, 1906).

EMACIATION, CAUSES OF.

Loss of weight (gradual or fairly rapid) is often observed as a part of the aging process in persons past middle life. This emaciation is often associated with arteriosclerosis, possibly as a result of it, possibly as the concomitant effect of some third (unknown) factor. The rapid gain in weight often seen in growing children and in the convalescence from wasting diseases is not directly a result of abundant food, and may occur even when the food supply is far below normal. The gain must be referred to an extraordinarily rapid cell production, due primarily to heightened growth-energy in the cells themselves. That influences connected with the organs of sex may exert a controlling force on nutrition is strongly suggested by the changes in flesh and figure following parturition and the menopause. The importance of internal secretions in the maintenance of perversion of nutrition is exemplified in the emaciation of Graves's disease, the increased weight of the myxœdematous, and perhaps in the more local hypertrophies of acromegaly and Paget's disease. The possibly decisive influence of insomnia on weight is suggested by the rapid emaciation sometimes occurring in cases of aneurism when sleep is prevented by pain, though appetite remains excellent. R. C. Cabot (*Journal of the American Medical Association*, March 17, 1906).

ENDOCARDITIS, FEVER IN CHRONIC.

The author states that a large proportion of hospital cases of chronic endocarditis, even when uncomplicated, have fever, which may be high and long-continued without apparent cause. Neither the presence of fever, nor its degree, in such cases follows strictly the variety or degree of endocardial lesion. Febrile cases with hæmorrhagic eruptions are prone to be fatal, while the febrile uncomplicated cases are almost as fatal as those with marked complications, and more fatal than the afebrile cases. Improvement sometimes occurs even in cases with prolonged and high fever. The line of demarcation which distinguishes malignant endocarditis from other forms is not distinct. The rheumatic febrile cases of chronic endocarditis are as favorable as the afebrile, or even more favorable. J. S. Thacker (*American Journal of Medical Sciences*, January, 1906).

EPILEPSY, PATHOLOGY OF.

The writer holds the view that epilepsy is a disease occurring in persons with a defectively developed nervous system, associated with a morbid condition of the blood, whereby it shows a special tendency to intravascular clotting, and that the immediate cause of the fits is sudden stasis of the blood-stream, resulting from the blocking of cerebral vessels by these intravascular clots. The following are the important changes found in the nerve cells: (a) A form indicative of imperfect development; (b) retention of subcortical nerve-cells; (c) either an acute form of cell changes; or (d) groups of darkly stained shrunken cells. On the part of the vascular system they are: (e) Large numbers of blood-plates in the blood; (f) different forms of intravascular clot-

ting; (g) small cortical hæmorrhage. Taken together (that is, the correlation of the defectively developed and probably unstable nerve-cells with the local stasis of the blood-stream, resulting from intravascular clotting), these conditions constitute the pathological basis of the epileptic fit. J. Turner (*British Medical Journal*, March 3, 1906).

FORMALDEHYDE IN INTERNAL DISEASES.

During the last four months the writer has given formaldehyde internally in cases of sore throat, catarrh of the bladder, erysipelas, scarlet fever, and diphtheria, and has also used it prophylactically for scarlet fever. In almost every case the results were favorable. The method of administration was by means of formamint tablets, each of which contained one centigram of formaldehyde. Three cases of angina catarrhalis and four cases of angina lacunaris showed improvement after eight to ten tablets had been given in each; the fever, swelling, and pain rapidly disappeared, and solid food could be taken on the second day. In no case were local applications made to the throat. In such affections the formaldehyde set free in the mouth as the tablet dissolves exerts a direct disinfectant and bactericidal action, and it is well, therefore, to tell the patients to keep the tablets in the mouth as long as possible. The pleasant taste of the tablet makes this easy even for children. The patients treated for scarlet fever were children of ages varying from five to ten years. In the stage of fever the tablets were taken every hour until five had been taken; the interval between the doses was then increased to two hours until the temperature became

normal, when it was again increased, this time to three hours. In the early stages the effect of the drug was good, and a critical fall of temperature usually occurred on the third to fourth day; but the later stages of the disease did not appear to be influenced.

In ten cases of diphtheria the treatment by formamint tablets was employed as a substitute for local treatment by disinfectant gargles, and in some of the milder cases antitoxin was dispensed with. In all cases the improvement was rapid, and in none did any post-diphtheritic paralysis occur. Again, the tablets were given in five cases of cystitis, two of gonorrhœal origin and three following on spinal paralysis. Of the gonorrhœal patients one discontinued the treatment after a few days, in which no improvement occurred, the other fully recovered after fourteen days' use of the drug. Two of the three spinal cases had been previously treated for long periods without result by means of urotropine, washing out of the bladder, etc., and in both after a fortnight's use of the formamint tablets the urine became clear and faintly acid, and the subjective symptoms disappeared. Two cases of erysipelas responded favorably to the treatment, and in one recovery occurred on the third day.

The author has twice used formamint tablets prophylactically, once in scarlet fever epidemic occurring in a hospital, and once when a case of scarlet fever developed in an over-filled house. On each occasion none of the people to whom the tablets were given and who had been within reach of infection contracted the disease. Jakob Zwillinger (*Therap. Monats.*, October, 1905; *British Medical Journal*, January 13, 1906).

GALL-BLADDER, REMOVAL OF THE.

The practical conclusions which the writer feels confidence in urging, both from his own experience and that of others, are that there is an undoubted relationship between cholelithiasis and cancer of the gall-bladder and ducts; and as gall-stones produce characteristic symptoms, and are therefore, as a rule, easily diagnosed, and since they can be removed in the early stages before serious complications have supervened with very little risk (in his own experience, extending over some hundreds of operations, less than 1 per cent.), the preventive treatment for cancer of the gall-bladder is obviously removal of the source of irritation. So impressed is the author with the importance of this view, that although he knows the symptoms of gall-stones, which frequently depend on the associated catarrh, can often be relieved for a time by general treatment (though the gall-stones producing the catarrh cannot be removed by medicine), yet he considers it wise to recommend their early removal, not only because it can be safely done, but also because the symptoms are likely to recur and lead to other complications, and, not least important, because, in a considerable percentage of such cases, malignant disease will be likely to supervene if the irritation be not removed. A. W. Mayo Robson (*British Medical Journal*, February 24, 1906).

GALL-STONES, TRANSDUODENAL, REMOVAL OF.

In favor of duodenocholedochotomy for gall-stones in the lower end of the common duct are (a) the avoidance of drainage in some cases where one would not otherwise wish to set up the wound in the duct and close the abdomen; (b)

the greater ease in sewing the duodenal than the duct incision, by virtue of size and proximity of the former; (c) uniformly kindly healing of intestinal wounds; (d) easy and natural access to common duct; (e) ease and benefit of dilatation of papillary orifice in ensuring better drainage of bile and detritus; (f) duct may be safely incised for half an inch in extracting stone or in enlarging the orifice for drainage. Against the procedure has been raised the common prejudice against opening the gut in general, the fear of fistula (which occurred in but two out of sixty-two cases), and the dread of infection, which has been vastly overrated in regard to the upper half of the intestines.

In neoplasm of the papilla this route is clearly indicated for diagnosis and treatment where the growth is amenable to local treatment and the gall-bladder cannot be used for anastomosis or drainage. In total stenosis of the papillary orifice, whether from neoplasm or trauma of stones, a choledochoduodenostomy could be done with the incision employed in duodenocholodochotomy, where the anastomosis could be made low down in the common duct.

In pancreatic stone, duodeno-pancreolithotomy is an established procedure, and for good anatomical reason is the method of election. John C. Hancock (*Annals of Surgery*, January, 1906).

GLYCERINE, BACTERICIDAL ACTION OF.

In the course of the author's investigations into the purifying influence of glycerine in glycerinated vaccine virus, he was led to observe that many bacteria are destroyed much more rapidly in vaccine emulsions containing glycerine alone than in cultures to which glycerine was added. It occurred to him that the tis-

sue fluids or cell contents might in some way be concerned in the bactericidal effect, possibly through some combination between the glycerine and the constituents of the emulsion, or through the agency of the glycerine in extracting from the cells some peculiarly active bactericidal substance. In the course of his researches he found that when normal serum and glycerine were permitted to act together, their bactericidal power was much more effective than when either fluid was allowed to act alone; the writer also noted the peculiar result that immune serums were less effective in this respect than normal serum, or, at least, with the latter the reduction in the number of organisms proceeded with considerably greater celerity. In one of his experiments he investigated a pneumonic exudate containing innumerable bacteria in every loopful. This exudate, when mixed with glycerine, suffered progressive diminution of bacteria, but all growth was not eliminated until after thirty-two hours. The addition of normal serum, however, to the mixture of glycerine and exudate brought about sterility in the short space of five hours. It was further found that the bactericidal action of various immune and normal serums was increased by the addition of glycerine, and that the most favorable proportion of this substance to add was 25 per cent. The most striking results were obtained when the glycerine was mixed with the immune or normal serum before being added to the material containing the bacteria. J. J. Kinyoun (*Journal of Experimental Medicine*, November, 1905).

HEPATIC ABSCESS.

Abscess of the liver may follow malaria and typhoid fever, on account of

infection and the congested condition of the liver. Abscess may be present, while fever, dysentery, or jaundice may be absent. Aseptic aspiration is the means for clearing up the diagnosis. The finding of malarial plasmodia in the blood, or amœbæ coli in dysenteric stools, aids in the diagnosis. With perfect adhesion and good drainage, the prognosis in single tropical abscess should be good. Good drainage without irrigation is the safest rule for treating abscess of the liver. It is thought that dysentery as a cause of liver abscess has been exaggerated. L. Sexton (*American Journal of Surgery*, February, 1906).

LARYNGEAL TUBERCULOSIS.

Among 474 cases with tuberculosis of the lungs, the writer encountered 170 patients who presented symptoms of tuberculous involvement of the larynx. The most frequent symptom was hoarseness. About 77 of the patients complained of local pain, and 72 of difficulty in swallowing from the first. He was able to improve the condition in 68, so that all pain and difficulty in swallowing passed away, and eight patients were clinically cured. A number of other patients were materially relieved, although there could be no question of much improvement in their cases.

When the diagnosis is assured, the author institutes general as well as local treatment for the tuberculosis. He commences with prolonged inhalations of menthol twice a day. This frequently proves sufficient to relieve the pain and other symptoms. It is very important to refrain from using the voice; he requires his patients to write all they have to say, and not to speak at all. As a last resort he occasionally finds it necessary to use local anæsthesia in the form of cocaine or some similar preparation in

olive oil. V. S. Stein (*Hospitalstidende*, Vol. xlviii, No. 34-35; *Journal of the American Medical Association*, March 10, 1906).

LEUCÆMIA, TREATMENT OF.

The treatment of leucæmia with the Röntgen rays causes a change in the amount of uric acid excreted, a phenomenon not hitherto observed in other diseases. A decrease in the amount of uric acid during treatment is a favorable prognostic sign, the amount increasing again as the patient becomes worse. The excretion of xanthin bases increases both during and after the employment of the Röntgen rays. In pseudoleucæmia, splenic anæmia, the rays seem to have a beneficent effect upon the spleen, but no case has yet been cured. In this disease there seems to be no influence of the rays upon the uric acid excretion. F. Rosenberger (*Münchener medizinische Wochenschrift*, January 30, 1906; *New York Medical Journal*, March 10, 1906).

MILIARY TUBERCULOSIS.

The writer reiterates his former statements to the effect that the view as to the causation of miliary tuberculosis held by Weigert and his followers is erroneous. Their theory is that the dissemination of the bacilli takes place through the sudden escape into the blood-stream of a large number of tubercle bacilli which are at once spread about through the various viscera. The writer takes the stand that the process of dissemination is a more gradual one, and believes that this must be so, owing to the fact that tubercles which are manifestly of very different ages often occur side by side. In his opinion minute tubercles of the intima of the blood-vessels play a prominent part in

the process. By making serial sections of the lung, for example, he states that it is possible to discover them in their earliest stages as minute prominences of the arterial wall, and from these he believes a further propagation of the organisms takes place. Circulating blood does not afford a favorable culture medium for tubercle bacilli, which soon disappear from it unless the supply is constantly reinforced. According to the author, the original point of entrance of the bacilli into the blood does not discharge its whole cargo of germs at once, but continues to permit their escape over a considerable period of time. The intima foci of the pulmonary arteries, when occurring in the smallest branches, promptly cause these to be occluded, and the identity of the vessel can then no longer be recognized when sections of the tissue are examined. In this way the uniform distribution of the tubercles throughout the entire lung is explained. Ribbert (*Deutsche medizinische Wochenschrift*, January 4, 1906; *Medical Record*, January 27, 1906).

NURSLINGS, THE PASSAGE OF ANTIBODIES INTO THE BLOOD OF.

There is general agreement as to the elimination of antibodies by the milk. The only questions are whether they find their way in any useful quantity into the blood of nurslings, and, if so, whether this happens constantly, or only in the case of very young infants. The author criticizes Salge's experiments in elucidation of these points as being too few in number, and of purely scientific rather than of clinical interest. Observations were made on 17 healthy children of ages from one month to two years. To begin with, 22 children were available, but five of these began to suffer from gastro-intestinal disturbances,

and were left out of account. In five cases, 3000 units of Behring's serum were injected into the wet nurse. In each of the other 12 cases, 6000 units were employed. This quantity of serum was administered in three injections at intervals of three days. The antitoxic power of the nursling's serum was tested the day before the first injection, and again three days after the last injection. In the first series of ten experiments, from $\frac{1}{12}$ to $\frac{1}{60}$ cubic centimeter of the child's serum was withdrawn and mixed with from one to ten times the minimal lethal dose of diphtheria toxin and injected hypodermically into a guinea-pig. The object of these experiments was to determine whether any useful degree of antitoxic power could be conferred on the blood of nurslings by means of milk. In the second series of seven experiments a smaller dose of toxin was used—from $\frac{1}{10}$ to $\frac{8}{10}$ of the minimal lethal dose—and an attempt was made to find in the time of onset of cedema and other symptoms, a means of measuring the antitoxic power conferred on the child's serum. The author found that the passage of antibodies was on a very small scale. He could only rarely satisfy himself that as much as $\frac{1}{1000}$ part of the antitoxin injected into the wet nurse was present in the blood of the child. He therefore entertains no hope that the child can be advantageously immunized by injecting the wet nurse. The proceedings were found not to be uniformly harmless to the persons injected. Forty per cent. of the women suffered from one or other of the symptoms mentioned, namely, articular and muscular pains, fever, vomiting, headache, ecchymoses, pruritus, and albuminuria (one case). The passage of antitoxin into the child's serum was not found to depend in any way on the age

of the child. F. la Torre (Il Policlin., December, 1905; British Medical Journal, March 10, 1906).

OSMIC ACID INJECTIONS, EFFECTS OF.

The injection of 10 drops of osmic acid, in 2 per cent. solution, into sensory nerve trunks is safe. The likelihood of irritation of the kidney, however, should not be forgotten in cases exhibiting kidney lesions. It is not probable that the death from cerebral hæmorrhage three months after injection of the acid was due in any sense to the injection.

Injections into the inferior dental or other nerves should be made through the mouth, since infection of the wound and necrosis may result, with consequent failure in the action of the acid.

Immediate relief should not always be expected, notwithstanding the cases of Bennett and Murphy were all immediately relieved. No one of the writer's cases, even those in which the acid was accurately injected into the nerve trunks and into the perineural fat, was promptly relieved, relief coming in from one to two weeks. The observations on this point of Wright, who had a large experience with osmic acid injections, correspond with those of the author.

There is very little doubt that the stretching of the nerve trunk, necessarily incident to the injection, is productive of good, supplementing, as it must, the action of the acid. There is, therefore, no good reason why the stretching should be avoided intentionally, except perhaps for experimentation.

In the case of small nerves, it will be found exceedingly difficult to inject directly into the nerve trunk, that is, the needle eye will pass to the distal side of the thread-like nerve, or perhaps not

enter the nerve substance at all. Or, notwithstanding the utmost care, the fibers may be so teased apart by the needle point that the fluid will simply split about the nerve. In such a case, in order to bring the acid in contact with all of the fibers, it is wise to clip the nerve so that the end may be bathed in the fluid.

The effect of manipulation of the nerve, as by stretching, has not as yet been eliminated as a possible aid to the chemical action of the osmic acid; therefore, a general anæsthetic should be administered, so that neurectasy, or section, of the nerve may be done if desired.

The author states that his experiments have shown no changes in the nerve tissues as the result of injections of osmic acid, other than the disintegration of fat and oil globules in the perineural spaces and in the white matter of Schwann, such white matter of Schwann being simply fatty matter in a fluid state, insulating and protecting the essential part of the nerve. The degenerations appearing in the nerve itself are only such as may be fairly attributed to nutritional changes and exposure, the indirect result of the selective action of osmic acid of destroying fat. There is no reason why this fat should not be restored and the nerve again become capable of transmitting sensation; that is, theoretically, the neuralgia may return after injections of osmic acid.

Osmic acid injections are uncertain in effect as to the cure or relief of neuralgia, but a large percentage of these cases will be relieved for months. The injection of osmic acid for the relief of tic douloureux is justifiable, even if it should become necessary to repeat the injections at intervals of a few

months, particularly in view of the unfavorable results of the so-called radical operations.

The local irritation produced by the acid and the remote toxic and irritant effects are not serious in their consequences, and have no meaning as to the effect of the osmic acid in relieving neuralgia. The solution should be made fresh for each operation, as deterioration is rapid.

Pain persisting several days in a small circumscribed area means that the filaments supplying this area have not been acted on by the acid. The acid usually finally destroys such filaments. It may become necessary, however, to reopen a wound for the purpose of injecting such filaments. Mere subcutaneous injections are of little or no value. J. R. Eastman (*Journal American Medical Association*, February 24, 1906).

PLANTAR REFLEXES.

The full, slow, deliberate extensor response is highly characteristic of organic interruption by the influences traversing the pyramidal tract, and has a value nearly approaching that of true ankle clonus. It does not occur in healthy adults when awake. It is constant in its appearance and easily produced, and cannot be well simulated by voluntary movement.

An extensor response, shorter in duration, of smaller range and more immediate in appearance, is usually found when the lesion of the pyramidal tracts is more physiological than anatomical, as in the exhaustion of the cortical cells after epilepsy, or the pressure of exudations, as in meningitis. It may be met with in slighter anatomical lesions, and is sometimes replaced by a flexor response. In such cases especial care

must be taken to eliminate voluntary movement.

An alteration of flexion and extension may be obtained in these cases. If the flexion and extension are of equal range and rapidity, great caution must be observed in the interpretation. The movement may be voluntary, or it may indicate a condition of pyramidal equilibrium due to slight damage. If the flexion, however, is very small in range, while extension is slower and larger in range, its significance must be carefully considered.

The reflex is absent in anæsthesia of the sole from any cause excepting that resulting from complete transection of the cord. The absence, when other considerations indicate a lesion of the pyramidal tract, is of no significance. W. B. Warrington (*Liverpool Medico-Chirurgical Journal*, January, 1906).

PNEUMONIA, PROBLEMS IN TREATMENT OF.

The author declares that from the very beginning effort should be directed toward controlling the toxæmia and its effect. Care should be taken, however, that the treatment does not exhaust the patient. Unless contraindicated, the writer uses saline cathartics freely during the early days of the disease. If the toxæmia is exaggerated, the same external methods of causing sweating should be employed as those used in the treatment of acute uræmia. The use of pilocarpin is warned against, but the use of hot drinks, liquor ammonii acetatis, and citrate of potassium advised. As there is generally kidney irritation in this disease, abundance of water is indicated. If there is nausea and vomiting so that the administration of water by the mouth is restricted, enemas of normal saline solution should be substi-

tuted. Venesection is indicated in those cases in which the patient seems to be overstimulated by the toxæmia. Fresh air is necessary, but cold is not an essential element of the open-air treatment. The author advises keeping the room at a temperature of 65° F.

In cases in which there is pain, opium or one of its derivatives, as a rule, has the best effect. The tendency to resort to nitroglycerine in cases in which cardiac failure is suspected is condemned. He advises two classes of stimulants to be used in cases of loss of vasomotor control: 1. Those acting on the medullary centers—strychnine, caffeine, atropin, and cocaine; 2. Those acting directly on the muscular tissue of the arterial system—digitalis, ergot, and suprarenal extract. The action on the blood-vessels of suprarenal extract or adrenalin chloride is very rapid and energetic, but its effects are temporary. It should be used in the treatment of sudden vascular collapse. E. Le Fevre (*Medical Record*, February 24, 1906).

PNEUMONIA, PROGNOSIS AND TREATMENT OF.

The writer holds that the increased fatality of pneumonia of late years is partly due to the increased prevalence of influenza. Under two years the mortality is 50 per cent. From then to twenty years it is low, but after that it increases with each decade of life. The greatest incidence is between the third and fourth decades. There is an increasing tendency to secondary empyema. Preëxisting cardiac disease and concomitant pericarditis are very serious complications. Pregnancy also increases the danger. Sudden cessation of a profuse expectoration, with no improvement in the general condition, is a

very bad sign; also the expectoration of prune-juice sputum or pure blood.

Serum treatment of the disease has as yet won no firm place. The bowels should be well opened by a brisk purge at the beginning; later, purgation may be dangerous. The food should be milk, well diluted with soda water, or barley water. The pain in the side calls for relief, but opium should not be given until hot applications have been tried. For the delirium, hyoscine may be given. The application of ice-bags to the affected area often produces considerable benefit. The routine administration of alcohol is not necessary or advisable. Late in the disease strychnine should be given hypodermically, and also belladonna to stimulate the respiratory center and to dry up the bronchial secretion. Oxygen should always be in readiness. The abstraction of blood in suitable cases is worthy of trial. C. H. Catle (*Lancet*, March 3, 1906).

PROSTATIC ALBUMINURIA.

The writer declares that this form of albuminuria is a not infrequent cause of error in the diagnosis of the so-called orthostatic postural, physiological, and cyclic albuminuria. He concludes that the secretion from a hyperæmic or an inflamed prostate is albuminous, while that from the normal gland is not, or is present in such a small quantity that, unless the seminal vesicles are massaged, the urine passed will not give the tests for albumin. This is apparently a constant symptom of chronic prostatitis, and may be depended upon in the diagnosis. Prostatic albuminuria seems to be an appropriate name for this condition.

In making insurance examinations, as well as in the diagnosis of obscure forms of albuminuria, this possibility should be

eliminated, with the other sources of contamination, before reaching a positive conclusion as to the significance of albumin. The periodic increase in the prostatic discharge, along with the striking similarity between the symptoms of intermittent, postural, orthostatic, and cyclic albuminuria, and prostatorrhœa makes the possibility of mistakes in the diagnosis extremely likely when this fluid flows back into the bladder and does not appear at the meatus. This regular increase every ten to thirty days, and the analogy between the uterus and the prostate, suggest a relation between the causes of this condition and menstruation. E. G. Ballenger (*New York Medical Journal*, February 24, 1906).

RHEUMATIC FEVER.

The author does not believe that rheumatic fever is, properly speaking, an infectious malady. Although in many instances infections with several forms of pathogenic bacteria may occur, this septicæmia is secondary, accidental, and not incidental. Typical cases may occur without it. The blood in acute articular rheumatism is sterile. It may be that certain products of the muscles are a proximate cause of the disease.

As to remedies, the author prefers salicin supplemented by local applications of wintergreen oil, the joints being enveloped in cotton and bandaged with flannel. He condemns the use of salicylic acid and all the coal-tar derivatives. For accessories he has found the alkalies very useful, especially the citrate of potash in the liquor ammonii acetatis. Some iron preparation is generally required. This may be given separately, as the tincture of the iron chloride or some of the newer combinations, or it may be given at the same

time as the alkalies, in the form of Basch's mixture, liquor ferri et ammonii acetatis. When the pulse is rapid and the heart action weak, it is advisable also to combine strychnine with the preceding; or the infusion of digitalis may be given internally, combined with the alkali (such as potassium citrate or sodium bicarbonate), and the strychnine may be given hypodermically at suitable intervals. For the hyperpyretic cases, cold affusions or the cold bath give the best results. The bowels must be kept open, and as the tonsils are doubtless the site of entry of infectious organisms, an antiseptic mouth-wash should be freely used. The patient is allowed a moderate amount of food, broths, toast, butter, weak tea or coffee, and an occasional egg. All articles liable to ferment in the stomach should be withheld. Meat is allowed only after the decline of the fever, when convalescence seems assured. J. V. Shoemaker (*New York Medical Journal*, February 24, 1906).

"RHEUMATIC MIGRAINE."

The writer refers to the headache which occurs as one manifestation of the peculiar diathesis or disposition which predisposes to joint disease. He calls it the "migraine of the arthritic," and is convinced that the pain is the result of the compression of the nerve terminals by congested blood-vessels. Everything that increases the pressure or the spasm—stooping over, any shock, compression, or electric stimulation—increases the pain. The nausea and the photophobia are explained by the disturbances in the circulation through the meninges. All these angiospastic phenomena can be reproduced by irritation of the cervical sympathetic. The pathologic irritation is the result, he

thinks, of a rheumatoid infiltration of the muscles, a "rheumatic myositis." When the case is recent, the muscles are still elastic and supple, but in cases of long standing hard lumps can be palpated in the muscles. The myositis proceeds by waves, under the influence of fatigue, traction of the muscles, dampness, etc. The ganglia may be indurated and the skin infiltrated and thickened. The superior cervical ganglion is always hypertrophied and tender; and sometimes the inferior and the middle ganglia. This is the true cause of the migraine, which may be regarded as a reflex neurosis, similar to certain forms of reflex epilepsy.

The author has been very successful with treatment based on these assumptions. Sodium salicylate is applied directly to the affected tissues. This is accomplished by polar electrolysis, placing a negative electrode, impregnated with a 20 per cent. solution of sodium salicylate, on the neck, with the positive electrode on the abdomen or on the back in the lumbar region. The current preferred by the author is from 15 to 50 milliamperes, and each sitting is half an hour in length. Under the influence of the galvanic stimulation and of the specific drug the cervical rheumatism rapidly subsides. The attacks of migraine become milder and recur at longer and longer intervals, until they finally cease altogether. On account of the tendency to recurrence it is advisable to resume the electric treatment with a few sittings from time to time. A number of patients have been treated by the writer on these principles in the last two years, the results corroborating his conception of the causal mechanism and suggesting that possibly something of the kind may be a factor in other neuroses, especially in certain forms of

epilepsy. P. Hartenberg (*Presse Médicale*, Vol. xiv., No. 5, 1906; *Journal of the American Medical Association*, March 17, 1906).

ROENTGEN RAYS, DOSAGE OF.

The necessity of accurate doses for Roentgen rays in the scientific application of this therapeutical agent is emphasized by the writer. Unfortunately, but little attention has been paid to this subject, and most authors describe the technics, the manner of manipulating the tube, etc., but do not speak of exactly measuring the amount of the active rays to be employed. When the therapeutical effect of radium is described, care is taken always to mention the precise duration of the exposure, the distance of the radium tubes from the object acted upon, and the radioactive strength of the elements, expressed in conventional units. If this has been found indispensable for radium, it is certainly more so for the X-rays, the effects of which are much more intense.

The dosage of Roentgen rays can be determined in a variety of ways, but the most practical method is that involving the use of chromoradiometers, such as that of Holzknecht. This instrument measures the amount of radiations absorbed by the substance exposed, and a unit of measure known as the "Holzknecht unit," which corresponds to No. 1 on the scale of the apparatus mentioned, may be employed for conveniently designating the comparative absorption of radiant energy by an organ or body exposed to the X-rays. A number of factors determine the Holzknecht unit, in addition to the amount of rays produced by the tubes; for example, the distance of the irradiated surface from the focus of origin of the rays, and the direction with which these rays strike

the exposed surface. The high doses from ten to fifteen units at each sitting may be used in operable tumors in which the need of treatment is urgent. In all other cases the exposure should be limited to five units by the Holz knecht apparatus, and in this way the serious complications which result from over-exposure to the X-rays avoided. Carlo Colombo (*Riforma Medica*, January 27, 1906; *New York Medical Journal*, March 3, 1906).

SCARLET FEVER, COMPLICATIONS OF.

Scarlet fever is described by the writer as a fever characterized by sore throat, more or less adenitis, a specific rash, a specific desquamation, and a specific course lasting usually for six weeks. The mode of onset is usually with a sore throat, headache, and vomiting, these occurring in about 85 per cent. of the cases. Sore throat is the commonest of these symptoms, headache the next. In addition to these specific symptoms, some cases present rigors and diarrhoea, a few have pain in the limbs, and a few present epistaxis. The rash appears in half the cases on the second day, and lasts about six days. Desquamation usually begins during the first week, at the root of the neck. On the toes and feet it may appear very late.

The complications are as follows: Adenitis, 19 per cent.; albuminuria, 21 per cent., and actual nephritis, 2.8 per cent.; otorrhoea and otitis, 6.4 per cent.; rhinitis and rhinorrhoea, 6.4 per cent.; rheumatism, 4.3 per cent., and secondary tonsillitis, 3.5 per cent. Mastoiditis, meningitis, optic neuritis, and ocular palsies also occur.

The degree of the rash has some little influence on the height of the initial fever, and slightly more on the duration

of the pyrexia, but it is not related to the subsequent severity of the case. A case with a severe rash may pursue a mild course, and vice versa. On the whole, however, a severe rash is more likely to be followed by complications than a mild one. There is some relation between the severity of the initial angina and the tendency to the occurrence of secondary adenitis, but this is not so close or so general as to account for the occurrence of the secondary adenitis. There is no actual definite relation between the height of the temperature and the occurrence of complications.

The author has studied the relation of oral sepsis and scarlet fever, and he concludes that the severity of the disease, that is, of the septic complications of it, is greatly influenced by the degree of oral sepsis in the patient before admission. This is not surprising, considering that the actual lesion in scarlet fever is in the throat, and the simple addition to this of a staphylococcal infection may be a very serious matter. Of cases without oral sepsis, only 35 per cent. had complications of moderate or severe degree; whereas of cases with oral sepsis, 65 per cent. showed such complications. The physician's first duty, therefore, is to eliminate this factor, if it be present, just as he would remove any other possible source of trouble. It is no less important in typhoid fever, in which disease the septic factor is an important cause of the chief intestinal complications, perforation, and hæmorrhage. W. Hunter (*British Medical Journal*, February 24, 1906).

SCIATICA, TREATMENT OF, BY PHYSICAL METHODS.

The treatment of sciatica inaugurated by Brieger and carried out at the Berlin University Hydrotherapeutic Institu-

tion is essentially a sedative one, and consists of baths in which movements are carried out, and of a subsequent massage; it is especially successful in cases of primary idiopathic sciatica. In severe cases the patient is kept at first in a state of as complete physical and mental rest as circumstances will permit, rest in bed being enforced if possible. The effect of cold compresses on the leg is first tried. The leg is enveloped in a cold wet cloth covered with flannel, and this compress is left on for the night. Such a procedure, combined with rest, has an excellent result in many cases. There are, however, many other cases in which cold applications cannot be borne, and for these hot wet applications are tried. This can be done either by laying over the part a cloth which has been wrung out from hot water and covering it with flannel, or by Diehl's method, in which the compress can be left on for the night. In a few cases patients cannot bear water compresses, and in these either the compress is applied only over the course of the nerves, alcohol compresses are tried, or, as a last resort, dry heat only is used and the leg is simply enveloped in cotton-wool or flannel.

For patients who cannot be easily conveyed to the bathing pavilion, warm full baths are next used. The bath is at a temperature of 37° to 40° C.; the duration of the bath varies from ten minutes at the beginning of the treatment to three-quarters of an hour at the end; towards the end of the time in the bath, the temperature of the water may be reduced, by the addition of cold water, to 25° or lower. Movements are carried out in the bath—first passive, then active, and then movements against resistance. The limit to which the movements can be carried depends on the

amount of pain which they give rise to. If during the course of the bath pain should become excessive, vibration massage, carefully applied with the forefinger over the sensitive area, often acts like a narcotic and gives speedy relief. Massage, except the vibration massage, is not begun until the most prominent subjective symptoms have begun to yield to treatment. It is carried out directly after a bath, or, if it be necessary in order to lessen the pain, while the patient is in the bath. At first, light stroking or pressing is used, and later the typical Mezger's massage.

Special emphasis is laid on Lasèque's method of stretching the sciatic nerve. To do this, the doctor lays one hand on the patella, and with the other grasps the patient's heel and raises the leg; as soon as the patient feels severe pain the leg is brought down to the horizontal again. This exercise can be performed at first once a day, and later two or three times, or even oftener. Later on in the treatment, gymnastic exercises are employed, designed to produce a slight passive extension of the nerve.

In many cases, from the outset of the treatment the Scotch douche with its alternatives of heat and cold proves useful for patients who can be moved to the bathing pavilion, or for out-patients who attend the clinic. During the whole course of the treatment care is taken that the patient has a daily evacuation of the bowels. At the end of the treatment advice is given to the patient as to his manner of life, and he is warned of the danger of chills and of sitting on hard seats or seats covered with leather.

The writer states that the results of the treatment are very good. It is not easy to estimate the percentage of recoveries, because the patients often in-

sist on a return to work as soon as improvement becomes obvious, and they are lost sight of; but at any rate, in cases of rheumatic origin the percentage of recoveries lies between 80 and 90 per cent. The failures are usually in cases with complications, and neurasthenia is a specially unfavorable complication. Sciatica is an obstinate disease, and time enough must be allowed for the treatment, nor should it be discontinued if there should be by chance a temporary increase in the severity of the symptoms.

A case is described by the author in which a patient, in spite of different treatment tried during two years, had become unfit for his work. This patient, at the beginning of the Brieger treatment, had a painful relapse, but nevertheless by the end of four months he made a complete recovery and was afterwards able to ride and walk in all weathers, for hours at a time, without any return of the symptoms. Scoliosis and certain paræsthesias are liable to remain as sequelæ of severe attacks of sciatica. The scoliosis is to be treated by exercises methodically carried out, and later, if necessary, by an orthopædic scoliosis treatment. The paræsthesias are best treated by massage. E. Sommer (*Zeitschrift für Diät. und physik. Therapie*, December, 1905; *British Medical Journal*, March 10, 1906).

SPONDYLITIS FOLLOWING ACUTE INFECTIOUS DISEASES.

The importance of avoiding over-exertion or a fall soon after an acute infectious disease is clearly demonstrated by experience. Trauma certainly is a factor in the development of spondylitis after acute infectious diseases. Witzel even incriminates trauma in the bathing of typhoid patients as responsi-

ble for "typhoid spine" later. Every case of lumbago occurring after typhoid should be treated as if it were typhoid spine. Kuhn advises thorough examination of the spine from time to time after typhoid fever. Rest in bed is the main reliance in treatment. Moorehouse and Pallard and Taylor and Cannon have also found that rest in bed for three months proved successful after failure of all other measures. In severe cases, immobilization of the spine may be necessary besides the rest in bed. Quincke reports that a patient dismissed with a cast was almost completely cured by the end of a year. With immobilization, supplemented by cauterization and antiphlogistic measures, Bonardi cured his patients in two severe cases in sixteen and forty days. In a case reported by Schanz, the plaster bed banished immediately the intolerable pains. In four weeks a model for a leather corset could be taken, and in two weeks more the patient was able to sit up, and was cured by the end of the third month. Schanz insists further that the corset must be worn regularly for a time and that the patient must sleep in the plaster bed. Rest in bed and antiphlogistic measures are sufficient only in the very mildest cases. He recommends placing the spine in the lordosis position as much as possible, as this best relieves the pain. In severe and threatening cases treatment should be active, as for tuberculous spondylitis. The physician should never rely on the spondylitis proving harmless. Newcome applied extension with an eight-pound weight in one case, curing the patient in a month. Quincke also applied extension in one case with improvement in six months, but the deformity persisted unmodified.

Francke proclaims that all affections of the bones and joints after influenza

demand extremely cautious treatment; irritation of the slightest kind, even gentle massage, is liable to aggravate the trouble beyond remedy in the acute and even in the chronic stage. Mercurial treatment is indicated at the slightest suspicion of lues. In only one of the cases on record was there necessity for incision and evacuation of pus. This was in a case occurring after influenza; the entire arch of the fourth thoracic vertebra was found decayed. Franke believes that the lesion heals under conservative, better than under active, measures. He obtained the best results from hot baths and hot applications. Drafts are particularly injurious during and after influenza. Sodium salicylate with an antipyretic was useful in the more acute cases. Some patients thought they were helped by ichthyol salves, others by very gentle massage with chloroform oil, especially during the later stages, but very careless pressure caused intense pain and aggravation of the whole trouble. The foremost indication is rest and protection of the affected part. The patients must be encouraged, as the trouble is so tedious that they early despair of complete recovery. K. Fluss (*Centralblatt für die Grenzgebiete der Medicine und Chirurgie*, Bd. viii., Nu. 18-21; *Journal American Medical Association*, February 24, 1906).

STOMACH CONTENTS, SOURCES OF ERROR IN EXAMINATION OF.

The test breakfast is thought by the author to be a much more reliable means of investigation than the test meal, for reasons which he enumerates. The original test breakfast is 1 roll (about 35 grams in weight) and 400 grams water or the same amount of tea without any addition, the stomach contents

to be withdrawn exactly one hour afterward. The first test breakfast should be preceded by ascertaining whether or not the stomach is actually empty. Neglect of this preliminary examination is liable to nullify the results of the test. Unless the test breakfast is given in the morning as the first meal, the findings are also liable to be misleading. The variations in the secretions at different times must also be taken into account, especially those during menstruation, so that a single examination seldom affords a decisive oversight of the conditions. Another source of error is in the composition of the fasting stomach content in case of retention. It is wise in such cases to determine both qualitatively and quantitatively the proportions of lab and pepsin, as well as of hydrochloric acid. Pathologic lactic acid fermentation is generally accompanied by loss of these enzymes, and knowledge of this may explain dubious conditions.

Another source of error is the presence of bile, blood, mucus or saliva in the stomach content. Quantitative determination of the hydrochloric acid is impossible under these circumstances, and qualitative tests are decisive only when they are positive. The reflow of bile into the stomach in case of deep stenosis of the duodenum has a marked influence on the acidity of the stomach content.

Tests for gastrosuccorrhœa are liable to be misleading, as the preliminary rinsing is apt to induce a reaction in the way of secretion, and as it is impossible to be sure that all the liquid introduced has been taken out. Determination of the acidity of stagnating stomach contents and also of the secretions in the fasting stomach is of little diagnostic value.

The writer further argues that the presence of normal or increased hydrochloric acid, with only few remains of the test breakfast, is evidence that the motor function of the stomach is comparatively unimpaired, but, on the other hand, when the stomach is found still more or less full, we have no right to conclude from this that the motor function is defective. This conclusion is justifiable when the proportion of hydrochloric acid is abnormally small, with as much as 150 or 200 cubic centimeters of stomach content, unless it is evident that there are no remains of the food in the fluid.

The writer doubts the practicability and reliability of the new methods of stomach testing that have been introduced, and regards the old Leube method as still superior. The only drawback is that two or even three examinations with the sound are necessary to obtain unmistakable results. If a better method should be discovered, it would be wise to combine it with the test breakfast, which has stood the test of time and experience and conforms to the customs of all civilized lands. It is free from the drawbacks of the test meal, especially the interference with the tests for "occult hæmorrhage" by the presence of the beefsteak in the stomach. I. Boas (Berliner klinische Wochenschrift, Bd. xlii, Nu. 44 a; Journal American Medical Association, January 20, 1906).

SYPHILIS, SIMPLE METHOD FOR DETECTION OF SPIROCHÆTE PALLIDA OF.

The writer describes a method for rendering the spirochæte of syphilis so plain and characteristic as to make its differentiation from the ordinary saprophytic spirochætes quite simple. The stain is prepared as follows: One gram

lithium carbonate is dissolved in 200 cubic centimeters of water, and 2 grams of medicinal methylene blue are added. When completely dissolved the solution is heated on the water-bath until a rich polychrome has formed. The solution is filtered through cotton. One-half of this polychrome is carefully acidified with a 5 per cent. acetic acid until blue litmus paper shows a faint reddish tinge. The second half of the polychrome is added, and into this corrected dye a weak watery eosin solution of about 0.5 per cent. strength is poured until complete precipitation has taken place. This point is determined by filtering a sample from time to time till the filtrate is of a pale blue watery color and slightly fluorescent. The mixture is set aside for a day, and is then filtered through a double layer of filter paper. The precipitate is dried slowly at about 40° C. When dried, it is dissolved in wood alcohol, making a strong solution, which is permitted to stand for a day, when it is again filtered. To use this dye, a sufficient quantity is dropped on an unfixed preparation so as to cover it; after two or three seconds it is poured off and slowly introduced into clean water, the preparation side turned down. When washed, the preparation is drained and dried in the air. The *Spirochæte pallida* is stained a purplish color, which may be changed into a light black or black-brown by treating the specimen with Gram's or Lugol's solution. L. B. Goldhorn (The Post-Graduate, February, 1906).

THYROID IN INFECTIONS AND INTOXICATIONS, THE RÔLE OF THE.

The thyroid gland has been studied in sixty-seven cases in which the author removed the glands as soon as possible after death. He concludes, from a mi-

microscopical study of these glands, that acute infectious diseases, particularly scarlet fever, can cause marked histological changes in the gland. These changes always assume the same character whatever may be the cause of the infection, and they consist in hyperæmia, fluidification and disappearance of the colloid substance, and desquamation of the epithelial cells. These changes occur gradually, and the connective tissue always remains intact. Chronic alcoholism causes the same changes as do the infectious diseases. Chronic pulmonary tuberculosis causes changes characterized by a connective tissue hyperplasia and a disappearance of the follicles. Chronic nephritis, uræmia, carcinoma, and sarcoma cause no changes in the thyroid. J. Sarbach (Mitt. aus der Grenz. der Med. und Chir., Bd. xv., Hft. 3; St. Louis Medical Review, February 24, 1906).

TRANSFUSION.

The writer's practice, after prolonged intra-abdominal operations, whether much or little blood has been lost, is to inject into the rectum from one to two pints of normal saline solution. In puerperal eclampsia there is no better remedy, in his opinion, than the introduction of normal saline solution into the veins. In these cases he thinks it best always to open a vein for the purpose of lessening the quantity of toxic blood in the circulation, and then to supply the quantity removed by normal saline solution, which dilutes the toxins and renders them less potent, and also stimulates glandular excretion. Five cases are cited by the author, illustrating the good results following this procedure. His experience with adrenalin in conjunction with normal saline

solution is limited to one case. He thinks it is valuable as an adjunct, because by its action the vasomotors are held in check and the intravenous saline solution equalizes the circulation. He warns against injecting too large quantities into the veins, for fear of rupture of the vessels or fatal œdema of the lungs. W. B. Dorsett (Interstate Medical Journal, February, 1906).

TROPICAL SPLENOMEGALY.

A clinical summary of this symptom complex as it occurs in the Philippine Islands, shows that it is very closely related, if not identical with those forms occurring in other tropical countries, where it is variously known as kala azar, dum dum fever, etc. In the Philippines, as elsewhere, young people from fifteen to twenty-five years of age seem to be most susceptible. The disease is almost invariably ushered in by an attack of remittent or intermittent fever which clinically resembles malaria or dengue, and is accompanied by enlargement of the spleen. Recurrent exacerbations of fever at irregular intervals occur throughout the course of the disease. This fever is not influenced by quinine, and, in the Philippines, is recognized by the native as a "cayana" or "quisig" and is held by them to be a distinct disease from malaria.

The laity consider the disease as a very fatal one, and often of very short duration, but more often chronic, the patient living for several or many years. The spleen usually enlarges quite rapidly, reaching its maximum size by the second or third attack of fever, and then very often no further change occurs, unless the idea of the natives is correct, that the organ grows harder. The liver may or may not be enlarged,

but when it is, that change is secondary to the splenic enlargement. Jaundice, usually slight, but also well developed, is often present, sometimes even in those cases without enlargement of the liver. This fact accounts partly for the muddy, pigmented appearance of the skin and mucous membranes, which is so commonly seen.

There seems to be a special tendency to involvement of the mucous membranes in this disease. This is shown by the frequent gastro-intestinal disturbances, conjunctivitis, etc. The natives say that it also causes discharges from the vagina and sometimes also abortion. There is also a tendency to hæmorrhages in both the mucous membranes and the skin. Three of the writers' cases had epistaxis and bleeding from the gums. One showed hæmorrhages into the conjunctiva, and two, old cutaneous remnants of hæmorrhages. This tendency may be explained in some cases by the jaundice. CEdemas, at first transient, and later more marked and persistent, are common occurrences, and are more common on the legs and face. Ascites and pulmonary congestion may also be remarked. Anæmia, emaciation, and cachexia develop gradually in nearly all cases. Pain is a frequent, but by no means a constant, symptom. It is manifested by headache, arthralgia, and myalgias, and is apparently more common in the early stages of the disease.

Clinically, the condition seen in the Philippines is a fairly definite one, and is identical or closely resembles the kala azar of other tropical countries, and might from clinical findings alone be considered as a specific entity. W. E. Musgrave, W. B. Wherry, and P. G. Woolley (Bulletin of the Johns Hopkins Hospital, January, 1906).

TUBERCULOSIS, ALCOHOL AND.

The connection between alcohol and tuberculosis has been examined into by the writer. He divides his subject into two parts, and considers first to what extent alcohol, as used at the present day, is a cause of phthisis, and second, whether the consumption of alcohol by phthysical patients should be absolutely forbidden, or may be allowed in certain cases and in moderate quantities. Reliable statistics as to the effect of alcohol on the causation of phthisis are few in number. There is an impression that tuberculosis prevails amongst peoples in proportion to the amount of alcohol consumed amongst them, but careful investigation does not altogether support this view. Thus in England there has been a drop in the prevalence of phthisis since 1872, when sanitary regulations began to receive attention, yet the consumption of alcohol has increased during the same period. Other similar instances are quoted. Another fact which goes to prove that alcohol is not important as a direct cause of phthisis is, that the proportion of the number of women attacked by phthisis to the number of men is far greater than is the proportion between the number of women and the number of men who are addicted to the excessive use of alcohol. The enormous spread of tuberculosis in its milder form amongst children who can never have taken alcohol must also be considered. After a study of these facts the author concludes that alcohol does not to any extent directly cause the spread of tuberculosis infection. A second question is how far alcohol results in the development of phthisis after infection has occurred. Certain experiments on animals and the comparative rarity with which recent tuberculous lesions are found in post-mortem examinations

of alcoholic subjects suggest that the importance of alcohol in this respect also has been overrated. Clinical observation is of great value in deciding the matter, and the author has investigated it in connection with 767 sanatorium patients. Of these patients 39 out of 322 men belonging to the better class, 2 out of 246 women, and 13 out of 199 men of the working class had been addicted to the excessive use of alcohol. The answers to questions on the subject given by the men of the working class were not held to be trustworthy, and the small proportion of 13 to 199 is thus accounted for. The doctors agreed that the causes leading to the development of phthisis were in most cases many, and a single cause could only seldom be adduced. For example, 72 of the 322 men had been great smokers, 19 had a hereditary disposition to phthisis, etc. The author believes that in only about 2.4 per cent. of the cases could alcohol be considered with any great degree of probability to be the cause of the outbreak of the disease. Indirectly, however, the importance of alcohol in predisposing to tuberculosis cannot be exaggerated.

The author concludes that tuberculosis does not belong to those illnesses in which the use of alcohol is to be in all cases forbidden. Its use, however, should be narrowly limited, or even forbidden, (a) for nervous and excitable consumptives, and (b) for patients with a tendency to hæmorrhage, especially where there has been previous excess. The alcohol treatment introduced by Brehmer and Dettweiler, and which is now altogether abandoned, deserves consideration, the more because unprejudiced pathological researches seem to show that alcohol may possibly exert a directly beneficial influence on the healing

of tuberculous processes. Since the harmlessness of alcohol in moderate doses has been proved, its use in the symptomatic treatment of phthisis is justifiable, and in some cases to be recommended. Alcohol, on account of its fat-sparing properties, and the fact that it is readily taken by patients who are feverish and have no appetite, should probably be given more frequently in such cases than at the present day is customary. With the necessary limitations alcohol should not be forbidden to phthisical patients as a means of enjoyment; its effect upon the spirits of the patient is of no small value, and those patients to whom it is unnecessarily forbidden tend to become hypochondriacal. On practical and humane grounds temperance rather than total abstinence should be earnestly taught in the sanatoriums for the poorer classes. Wolff (*Beitrage zur Klin. der Tuberk*, Bd. iv., H. 3; *British Medical Journal*, February 10, 1906).

TUBERCULOSIS, HEART IN.

The author calls attention to the fact that a weak, undersized, muscularly-deficient heart, indicated by weak, rapid pulse and defective first sound, approaching embryocardia, is one of the most constant and significant conditions present in consumption. This condition of the heart, in a considerable percentage of cases, precedes the development of tuberculosis. In tuberculosis, as in pneumonia and typhoid, while the chief seat of toxine production is in the lungs or bowels, the chief strain falls upon the heart, and death in the majority of cases is due to toxic heart failure. This condition of the heart should be the principal guide in the diagnosis, prognosis, and treatment of consumption. A persistently rapid pulse without other

ascertainable cause should always arouse suspicion of incipient tuberculosis. Woods Hutchinson (Medical Record, March 3, 1906).

TUBERCULOSIS OF THE FEMALE GENITALIA.

While most frequent during the active period of life, the writer states that genital tuberculosis may occur at any age from ten weeks to eighty-three years. The disease occurs more frequently than is generally supposed. Williams claims that about 8 per cent. of appendages removed by him for inflammatory disease are tuberculous. A diagnosis is frequently impossible without microscopic examination. In doubtful cases the demonstration of a few tubercle bacilli in discharges is not sufficient—the association of giant cells is, however, conclusive evidence. It is usually secondary to manifestations of tuberculosis in other parts of the body, but undoubtedly occurs in a considerable number of cases, primarily in the genitals. The importance of early diagnosis is increased from uniformly good results of early operation when the disease is primary. All portions may be involved, and the Fallopian tubes are affected in almost all cases. The order of frequency of involvement is as follows: tubes, uterus, ovaries, vagina, cervix, and vulva. N. S. Betts (Journal of Surgery, Gynecology, and Obstetrics, March, 1906).

UTERINE FIBROIDS, MEDICAL TREATMENT OF.

The drugs most frequently used in the treatment of uterine fibroids are ergot and its various derivations. Some cases considered as fibroid tumors and as non-syphilitic have cleared up under the iodide of potash. Bichloride of mercury

has also been given. While not much can be hoped for from the direct effects of medical treatment, it is often possible to alleviate their symptoms, and in this way to postpone operation and possibly prevent it altogether. For hæmorrhage, rest, ergot, and the applications of iodine to the endometrium are ordered. Hot douches, with some mild antiseptic added, are of service, as is also a hot bag, applied to the lower dorsal or lumbar spine. Of all drugs, ergot is incomparably the best. It must be remembered that it is not a safe drug to give to patients with weak hearts. In a small percentage of cases curetting of the endometrium is the best course to follow, or iodine may be injected. The author prefers iodine to other caustics for the application, because it is at the same time a reliable antiseptic and a good hæmostatic, and also because it does not give rise to more than a thin superficial necrosis of the endometrium. The application can be repeated once a week in the intervals between the periodical losses.

As to relieving pain, the cause must be searched for and treated accordingly. The pre-menstrual congestive pain is often relieved by the administration of salines in conjunction, if necessary, with the milder sedatives, such as the bromides; and by the use of hot foot-baths, with or without the addition of mustard; an effective aperient is frequently of conspicuous service. The spasmodic menstrual pain in severe cases calls imperatively for rest and the application of heat to the lower abdomen. Anti-spasmodics, sedatives, and diffusible stimulants are the classes of useful drugs. Of the diffusible stimulants, gin is, of course, the most renowned, and at the same time one of the most objectionable; alcohol in any form is often

useful, but always, if possible, to be avoided. Aromatic spirit of ammonia, spirit of ether, and spirit of chloroform are sometimes useful. Hoffman's anodyne, the compound spirit of ether, in half-drachm doses, is one of the most efficacious means of relieving the pain. As regards sedatives, the milder ones should at first be tried, such as the bromides, antipyrin, phenacetin, or antifebrin; if these fail, or the case is a severe one, chloral, chlorodyne, belladonna, opium, or morphine may be administered by suppository or enema, or, finally, even by hypodermic injection. T. Wilson (*Lancet*, December 30, 1905).

VARICOSE VEINS, TREATMENT OF.

The writer states that the various operations in use at the present time are necessary in consequence of the diverse conditions and symptoms manifested by the disease. The condition is probably from a defect in the vein walls, valves, or innervation. The Trendelenburg operation is deservedly popular, especially for cases of vicious venous circle of the deep and superficial veins of the thigh. Enucleation of the veins in a subcutaneous manner through several short incisions is a satisfactory treatment for the majority of cases. The subcutaneous removal of the internal saphenous from above, at the side of and below the knee, by destroying the main superficial channel and deep communicating branches, is the best method, accomplishing in one operation all that can be obtained by either the Trendelenburg above or the Schede below. Goerlich's report shows 84 per cent. of operations as satisfactory, and 16 per cent. as failures. From experience in 184 cases this seems a fair statement of the late results from the various methods employed at present, ex-

cept as regards the percentage of failures. In this respect the writer thinks 16 per cent. too high, as in many of those cases in which the result is not satisfactory the patients are much improved over their former condition. C. H. Mayo (*St. Louis Medical Review*, January 13, 1906).

VOMITING, CHRONIC AND PERIODIC.

The writer discusses the difficulties that may attend the diagnosis of causation of chronic and periodic vomiting, and says that careful search of the entire body and all its functions may be necessary. He summarizes his deductions as follows: Vomiting of a chronic type, following gradually developed epigastralgia, from one-half to three hours after the ingestion of food, is attributable to peptic ulcer, gastric or duodenal. Chronic vomiting that occurs from ten to fifteen minutes after food ingestion is attributable to stenosis of the cardia, nervous abnormality, cerebral lesion (occasional rather than chronic), or to protracted acute gastritis. Copious vomiting ten or more hours after food ingestion indicates a muscular insufficiency; frequent repetition indicates a permanent lesion in the nature of a mechanical interference with the exit of food. Vomiting in the night is particularly liable to occur in cholelithiasis, periodic hypersecretion, muscular insufficiency, and nervous abnormality.

Vomiting attempts when the stomach is empty indicate a cause other than a gastric lesion, either a reflex cause, a toxæmia, a cerebral lesion, or a nervous abnormality. Morning vomiting and retching indicate either a beginning of pregnancy, alcoholism, pharyngitis, nephritis, or a nervous abnormality. Periodic vomiting of clear gastric juice

of normal or supernormal acidity in any considerable amount indicates a secretory neurosis or an ulcerative lesion. Vomiting as a sequel of headache, accompanied by severe nausea, but no gastric or abdominal symptoms, characterizes attacks of migraine; in a majority of cases eye-strain is the underlying cause. Attacks of vomiting of sudden onset, with tinnitus, deafness, and vertigo, are attributable to disturbances of pressure in the internal or middle ear.

Periodic attacks of vomiting of sud-

den onset, associated with more or less severe gastric pain and nausea, retraction of the abdomen, obstinate constipation during but not preceding the attack, and freedom from abdominal tenderness, are suggestive of the spinal crises, idiopathic nervous vomiting, and lead-poisoning. Periodic attacks of vomiting after abdominal colic and constipation, with localized or general tympany, are suggestive of chronic intestinal stenosis. D. Roberts (Medical Record, February 24, 1906).

Book Reviews.

A COMPEND OF DISEASES OF THE SKIN. By Jay F. Schamberg, A.B., M.D., Professor of Diseases of the Skin, Philadelphia Polyclinic, etc. Fourth Edition, Revised and Enlarged, with 108 Illustrations. P. Blakiston's Son & Co., Philadelphia, 1905.

This is one of the best of the series, and all are good. The author's skill in photography adds much to the value of his book and writings generally. Indeed, the illustrations are singularly fine for so small a volume. This edition has added a chapter on Actinotherapy and Radiotherapy, in the field of which the author has made many original excursions and gained much skill.

J. M. T.

THE DISEASES OF INFANCY AND CHILDHOOD. Designed for the Use of Students and Practitioners of Medicine. By Henry Koplik, M.D., Attending Physician to the Mount Sinai Hospital, etc. Second Edition, Thoroughly Revised and Enlarged. Illustrated with 184 Engravings and 33 Plates in Color and Monochrome. Lea Brothers & Co., New York and Philadelphia, 1906.

This second edition of so valuable a text-book will be welcomed by all students of pediatrics. Dr. Koplik's life-work in this field has been marked with uniform sincerity and breadth of scientific and clinical experience; hence the appearance of a revised and amplified volume raises large expectations, abundantly realized. The reviewer recalls with pleasure days spent in the enormous clinic over on the "East Side," where the author spends a half-day six times a week, observing, testing, feeding—hence the product of this labor, thus systematized, constitutes a valuable guide. The recent advances in medicine are, in this second edition, fully considered; some parts are rewritten. Theoretical and impractical points are omitted. The illustrations are good, graphic, practically explanatory of types and phases. It is an excellent book.

J. M. T.

PRACTICE OF MEDICINE. Text-book for Practitioners and Students, with Special Reference to Diagnosis and Treatment. By James Tyson, M.D., Professor of Medicine in the University of Pennsylvania, etc. Fourth Revised Edition, Enlarged. 240 Illustrations. Philadelphia: P. Blakiston's Son & Co., 1906.

Professor Tyson's text-book on the practice of medicine compares favorably with similar works in any language. The method of presentation, classification, special features, etc., have all received full attention in the reviews of previous editions, and in all of these certain minor changes and corrections have been made, and always some additions. One department has been enlarged by considerable additions, the section on animal parasites, by the aid of

Professor Allen J. Smith, who not only is a teacher of pathology of exceptional abilities, and a recognized authority on the subject of parasites, but possesses in a high degree for an expert in pathology, the unusual equipment of a full grasp and appreciation of clinical medicine. The additional illustrations are shown largely in this section, and are exceedingly useful and complete. The section on diseases of the nervous system, which constitutes at least one-quarter of the book, has always been a feature of exceptional value, largely the product of Dr. William C. Spiller, whose abilities as a neuro-pathologist are second to none in this country. There is little change in the rest of the work except such as has been called for thorough advances in knowledge in matters of detail. It is with pleasure that the reviewer testifies to his personal satisfaction in the use of this as a reference book, in which can be found the current acceptable views on clinical medicine and evidences of a strong personal quality.

J. M. T.

HAND-BOOK OF PHYSIOLOGY FOR STUDENTS AND PRACTITIONERS OF MEDICINE. By Austin Flint, M.D., LL.D., Professor of Physiology at Cornell University Medical College. 247 Illustrations, Including 4 Hand-colored, and an Atlas of 16 Colored Plates. New York: MacMillan & Co., 1905.

Dr. Flint presents in this hand-book more definitely than most of those who teach physiology in America, the view of the clinician. He himself has given much attention to practical medical problems, and hence his various writings possess a greater value than those of some who may have written perhaps more elaborately or even thoroughly on certain parts of physiology. He does not manifest the same interest in the relationships of physiology to clinical medicine as does Dr. Brubaker in his recent text-book. It is, however, not encumbered by the mass of experimental methods and unusual physiologic actions seen in some otherwise admirable text-books. This volume represents practically the instruction in physiology now given at the Cornell University, somewhat expanded and adapted. The index might be a little more full, because it is exceedingly important that the student should be able to possess several avenues in consulting the text. The colored plates in the atlas are beautiful and instructive.

J. M. T.

GALL-STONES AND THEIR SURGICAL TREATMENT. By B. G. A. Moynihan, M.S., F.R.C.S., of Leeds, England. Second Edition. W. B. Saunders & Co., Philadelphia.

A second edition, coming so soon after the publication of the first, in about eight months, has not allowed time, as the author states in the preface, to make any great alteration in the text. There have been added some seventy pages, however, chiefly case-records and new illustrations; also a new chapter on the congenital abnormalities of the gall-bladder and bile-ducts, thus increasing the already great value of the book. The whole subject of gall-bladder disease has been most carefully studied, and the work is to-day one of the best, if not the best book on the subject, and should have a place on the table of every surgeon, while to the medical practitioner it will prove invaluable.

W. J. T.

Books and Monographs Received.

The Editor begs to acknowledge, with thanks, the receipt of the following books and monographs:

"Transactions of The Medical Association of the State of Alabama." (The State Board of Health). 1905.—"Annaes de Academia de Medicina do Rio de Janerio. Tomo Sessenta e oito Julho de 1902 a Junho de 1903." 1905.—"Annaes de Academia de Medicina do Rio de Janeiro. Tomo Sessenta e nove Julho de 1903 a Junho de 1904." 1905.—"Unilateral and Other Unusual Forms of Nystagmus." By Alexander Duane, New York City, 1905.—"Paralysis of Divergence." By Alexander Duane, New York, 1905.—"Review of the Gynecologic and Obstetric Literature of the Year 1905." By Hugo Ehrenfest, St. Louis, Mo., 1906.—"Etiology of

Eclampsia." By Hugo Ehrenfest, St. Louis, Mo., 1905.—"Cysts in Lymphoid Tissue, An Exceptional Manifestation of Tonsillar Retrogression." By Jonathan Wright, New York, 1905.—"The Primordial Nature of the Forces Exerted Against the Penetration of Bacteria Beneath the Surface of the Body." By Jonathan Wright, New York, 1906.—"The Difference in the Behavior of Dust from That of Bacteria in the Tonsillar Crypts." By Jonathan Wright, New York, 1906.

From the United States Department of Agriculture, Washington, D. C., the following: "Three Years' Experience with Protective Inoculations against Tuberculosis in Cattle by the von Behring Method." By Dr. Strelinger, 1906.—"The Control of the Coddling Moth and Apple Scab." By C. L. Marlatt and W. A. Orton, 1906.—"The Tobacco Thrips and Remedies to Prevent 'White Veins' in Wrapper Tobacco." By W. A. Hooker, 1905.—"Root-Maggots and How to Control Them." By F. H. Chittenden, 1906.—"How to Control the San Jose Scale." By C. L. Marlatt, 1906.—"Meat Animals and Packing-house Products Imported into Eleven Principal Countries, 1895-1904." 1906.—"Norway, Sweden, and Russia as Markets for Packing-house Products. Imports from Principal Countries, 1895-1904." 1906.—"Experiment Station Work, XXXIII." 1906.

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Sajous's Analytical Cyclopædia of Practical Medicine.

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Editorials.

DEPARTMENT IN CHARGE OF
J. MADISON TAYLOR, A.M., M.D.

BROMIDE POISONING MISTAKEN FOR PARESIS.

In two cases, seen some time ago in consultation, in which the symptoms had seemed to the attending physician to warrant a diagnosis of general paresis, it has been found that the cause of their symptoms was chronic bromide poisoning. As this mistake in diagnosis may easily be made, attention is called to its possibility.

The patients were both fairly healthy men, in active business, who from overwork had become victims of insomnia. One had obtained from a physician a prescription containing 20 grains of bromide of sodium to the drachm, and had gradually increased the dose until he took habitually 120 grains at night and occasionally repeated the dose during the night. The other used a patent medicine subsequently analyzed and found to contain 15 grains of bromide of potassium to the drachm. This he was taking in tablespoonful doses several times a day, at the time his symptoms were at their height.

In both patients there developed, in the course of four months, a gradually increasing hebetude of mind, a progressive failure of memory, and an imperfect power of attention, so that business transactions were imperfectly carried out and in several cases neglected without reason, important letters being written only in part, and telegrams were begun and left unfinished. An unusual irritability of temper developed during this time, so that any remonstrance at neglect of work was resented, and any opposition produced outbursts of rage. The patients both showed unsteadiness in gait, a general weakness of the muscles, imperfect tremulous handwriting, inability to walk far without undue fatigue. Examination revealed thickness of speech, tremulousness of the eyelids, facial muscles and hands, diminution but no loss of knee-jerks, and a maudlin facial expression, a lack of mental acuteness, and an indifference to their actual condition. It had been noticed that both patients were liable to fall asleep in the daytime, but were restless and wakeful at night. At night both patients had, at times, seemed bewildered as to their surroundings; one had frequently dressed and walked about the streets in the night; the other was said, by a young physician who was put in charge, to have hallucinations of sight, seeing animals and people about him, and making motions with his hands as if holding and looking at the tape of a ticker (he was a broker) for hours at a time. Both patients affirmed that they were perfectly well, resented any medical attention or examination, and took pains to conceal the fact that they were taking any medicine. In neither case was there any loss of pupil reflex or of knee-jerk. In neither case had there been any delusion of grandeur, or any unusual business undertakings showing such delusions. In both cases a very strong bromide odor was present on the breath, anæsthesia of the fauces was discovered, and a general acne was found on the body. In both cases the members of the family and the attending physicians had failed to recognize the cause of the affection, and had concluded that the mental condition was such as to necessitate commitment to an asylum. In both cases constant surveillance by a competent physician, with the aid of nurses, prompt elimination of the poison by the skin, kidneys, and intestines, and increased nutrition was followed by entire recovery within a

month. The cases are now reported, at the end of two years, as the patients have remained during this time in perfect health and show no signs whatever of paresis.

M. ALLEN STARR.

HORTUS SANITATIS.

SINCE the most remote periods of time, it has been observed that animals instinctively sought certain curative plants to eat when sick. The Egyptians taught the art of purging the body by observing the habits of their dogs, using *Gramigna* for this purpose, and the Greeks learned from their goats to heal wounds with *Dittamo*. The most ancient individual mentioned as having a knowledge of the medicinal virtues of plants is Solomon. In effect, the Bible says of him that "disputavit supra ligna, a cedro quæ est in Libano usque ad hissopum quæ egreditur de pariete." The word "disputavit" shows that he must have discussed the subject with others, and, in another place, he declares that he learned "Naturam animalium, vias bestiorum, vim ventorum et cogitationes hominum differentias virgutorum et virtutes radicum, et quæcumque sunt absconda et improvisa," saying explicitly that he knew how to distinguish the different plants and recognized their utilities. Unfortunately the numerous books written by him on this subject have been lost.

The Greek, Roman, and Arabian physicians founded all their curative science on their knowledge of herbs. Indeed, the treatises which we have of Teofrasto and Dioscoride, and of other celebrated physicians of ancient times, show how profound was their study of this branch of their profession.

Many modern authors, like Coedo, Mattioli, Maranta, and others have treated this subject at length, writing voluminously on plants and their medical values. Much of this knowledge was handed down by tradition from generation to generation in agricultural countries like Italy. In the Northern Appenines, and especially in the province of Bologna, I have often noticed that the peasants preferred using their own simples to the service of a physician, and generally with success.

Modern science has, however, almost completely abandoned the use of plants as medicines, using in their place the products of chemical laboratories. Now it is quite unjustifiable to give up the use of herbs that have been known and tested for twenty centuries, and which should be retained for their healing and curative qualities.

Two causes have contributed to the abandonment of plants as medical remedies. The first is the rarity of certain plants, so that those selling them were not conscientious and did not scruple to replace them with others similar in appearance, but where the effect was not the same. I myself have seen the leaves of

Verbascum sold for *Digitalis*; of *Phytolacca* instead of *Atropa*; the blossoms of *Tunla* in place of *Arnica* flowers, the flowers of *Anthemis* in place of *Camomilla*, the roots of *Brionia* for *Calumba* roots, etc.

The second cause which contributed to the disuse of plants in illness is the fact that often the same plant will exhibit an entirely different effect when grown in different places or altitudes. The same species will show more active and energetic principles if gathered in mountainous alpine localities, and from an arid, dry soil, than when taken from a richer or more moist earth. For instance, *Achillea Ageratum* gathered on our arid calcareous mountains has vermifugal qualities of remarkable power, which are entirely lost in plants gathered on the plains or near cities. The climate also influences and modifies the active principles of plants. So in Scotland and Sweden, the hemlock contains a much less quantity of *Licutina* than in central Europe.

The *Aconite* gathered on the summits of the Alps is inert in comparison to that obtained in a lower altitude. In other cases an access of humidity can render more active the principle of some plants. For instance, the *Sedano* when cultivated in dry fields, is good to eat; if grown in marshy ground, on the contrary, it is acrid and unwholesome.

The soil has a great influence on the medicinal value of the leaves, flowers, and roots of a plant, which is demonstrated by chemical analysis. The *Salsole*, near the sea, is strong in soda; but inland it has only a small quantity. The *Rhododendri*, *Mirtillé*, *Abeti*, contain a great deal of colchicum (lime) and little silex (silica) if grown in calcareous earth, and, on the contrary, are full of silex and hold almost no colchicum when gathered from silicious earth. The *Rubarbato*, when cultivated in France, contains much colchicum, while that growing wild in the Himalayas has almost none. The time of gathering the leaves has also a great influence on their medical value; the leaves of many plants and trees are full of potash when in full activity of growth, and show lack of it when ready to fall. In the same way, the young branches possess active properties lacking in the older ones, as in *Ridmarino Bussolo*, *Erica*, *Edera*, *Oleandro*. The young leaves of *Phytolacca decandra* are good to eat, while the old ones acquire the properties of an emetic. The fruit of *Lauro-ceraso* and of *Atropa Belladonna* is very poisonous when unripe, but when mature can be eaten without danger. The bulbs of the *Colchicum* have active medicinal qualities if gathered while sprouting, before being fully developed, while, on the contrary, the roots of *Angelica* are only of value when gathered in winter, when the plant is without leaves. Analogously, the roots of *Geum verbanum* have active febrifuge qualities if gathered in the spring, and are inert and worthless at other times.

From these examples, one sees why vegetable remedies are not always efficacious, especially when the plants are collected by an unscrupulous herbalist, who cares only for the money earned. But in spite of this, there is no justification of the abandonment of vegetable remedies; we must rather find a way of guaranteeing the consumer, and of obtaining them genuine, pure and efficacious. To do this, there should be a garden established for the cultivation of medicinal plants, with all the care that scientific knowledge can give. As we cultivate plants used as foods and in industries, why can we not have gardens for the plants valuable in medicine?

We can easily perceive the value of gardens where it would be possible to have in abundance, grown under proper conditions, all plants of value to the medical profession, where they could be gathered at the right season, so that their full active qualities would make them efficacious. Man has, through his sagacious care, succeeded in turning to his own advantage the qualities and values of many plants once unknown or unappreciated, transforming simple and modest flowers into brilliant and ornamental ones, and changing unpalatable and unsavory fruits into delicious foods. We can change the coloring substance of the petals of certain flowers by chemical treatment of the soil they are grown in.

Digitalis grown in rocky, arid districts has very active cardiac qualities, but when cultivated in soil such as in gardens becomes inert. The same may be said of the *Giusquidmo* and for many other plants. Certain species of *Lactuca* are poisonous when wild, and become edible when cultivated.

Mentha piperita (peppermint) loses its flavor if cultivated too often in the same place, but in a wild state has a much greater quantity of essence. Recent experiments have shown that by adding glucose to the soil we can produce starch in the turnip, which ordinarily it does not contain. But there are many processes by which the active principles of plants can be changed or modified. For instance, by removing carefully the flowers from a tobacco plant, the leaves are much stronger in desirable principles; this is rational, as the plant is not exhausted by the production of the blossoms, and the whole strength is concentrated in the leaves.

At present we have a large number of botanical gardens which are furnished with all the modern scientific appliances for investigation and study, but they are purely scientific. I offer the proposition, that at least one garden started as a real *Hortus Sanitatis* would not fail to appeal to all those who are interested in relieving suffering. To such a project I would give all my time and energy.

PROF. J. E. MATTEI,
Palermo, Italy.

THE PATENT MEDICINE INDUSTRY

FROM THE STANDPOINT OF THE RETAIL DRUGGIST.

Several years ago the writer met a young Frenchman who had come to this country to "make a fortune in the patent medicine business." He had an excellent chemical and pharmaceutical education and was unusually clever and ambitious. He had also made a thorough study of the conditions existing in the drug business, and had carefully mapped out the part the wholesaler, retail druggist, physician, and consumer were to play in building up his enterprises.

He is now the proprietor of several well-known and widely-used patent medicines, and has already, within seven years from the time he came here, amassed a considerable fortune.

The writer well remembers the reasons he gave for coming to this country to market his formulæ; and since they are the same that have induced a large majority of patent medicine manufacturers to enter into that field, they may serve to bring out several interesting facts about the opportunities thus offered.

He stated, in the first place, that "statistics showed that no recent industry in America offers such large financial returns for the capital invested. Several hundred per cent. profit is usually secured for a good original-package article. There is practically no competition on it when it becomes thoroughly known, as a complex formula cannot be successfully imitated or analyzed. The consumer can easily be induced to order it by its copyright name, thus making it, to all intents and purposes, the only article of its kind on the market."

"Americans always have something the matter with them, or can be induced to believe that they have, and are consequently the greatest consumers of drugs of any people in the world."

"People who need medicine would rather buy a bottle and take it themselves, without having to go to a doctor and wait an hour or so to see him, and then have to carry out a lot of minor directions about the general care of their health besides taking the medicine." "The idea of home medication appears simple, inexpensive, and convenient, and it has become quite the fashion here."

"Nothing is more convincing to the mind of a sick person than a written statement from another that he was cured of a similar ailment by such simple means."

The formulæ which at that time this young man proposed to market consisted of well-known drugs, compounded with several unusual ones in order to defy analysis and give individuality to the mixture. They were all of a harmless nature in ordinary doses, and would certainly have been very efficient for proper cases. All the liquid ones contained alcohol.

His knowledge of *materia medica* and therapeutics was mostly what he had picked up from books read expressly for the purpose of devising his formulæ, and of course the selling qualities of the medicines was the chief part that he looked at.

He claimed to have about a half dozen formulæ that would, if used according to the simple directions, cure any disease not requiring special or surgical attention, and he had arranged his doses so that an eight-ounce bottle, selling at fifty cents for the liquid ones, would last for two or three days, and the larger size proportionately longer.

His plan was to manufacture them secretly, give each a catchy copyrighted name, publish on the label a partial list of ingredients, with full particulars as to the diseases for which it was a cure, and clearly worded directions. He planned to offer wholesalers and retailers a good discount on the list figures and to advertise extensively.

It may be seen from this that his reasoning was clear, businesslike, and thorough, and his subsequent success has shown that conditions in this country are such as to favor such an enterprise.

From the standpoint of public health it may be said that the indiscriminate use of medicines by a person who is ill, whose mind is necessarily impaired also, is less wise than it would be to permit an equally ignorant person, yet in good health, to prescribe for him; and although such abuses cannot be regulated by law, the right of an unlicensed individual to dispense medicines to a greater percentage of the community than any one physician can minister to, might be so regulated. By their inflammatory advertising these unlicensed "doctors" even go so far as to practically diagnose the individual diseases of their gullible readers by the conviction their details of symptoms bring. A large percentage of healthy persons are now taking patent medicines from habit, as a result of overstimulated imaginations, brought on by reading medical "ads," and are supplying wealth and encouragement to an industry which supplies a demand thus artificially created.

From the standpoint of the two professions of medicine and pharmacy it may be said that this industry is the cause, directly or indirectly, of the unsatisfactory conditions which exist, such as price-cutting, counter-prescribing, office-dispensing, sampling, diminution of prescription-writing, etc.

To the physician it has brought greatly decreased practice, unwillingness to obey directions specifically, and infrequency of future calls for new prescriptions.

To many pharmacists it has meant the gradual evolution into a merchant of small-profit and cut-rate goods, and the loss of his prescription trade.

Secrecy is the foe of science, which is defined as "An orderly arrangement of facts." What is to become of the sciences of medicine and pharmacy if remedial agents are used, the composition of which is not definitely known?

The drugs which are used in patent medicines are those which are well-known in their individual properties and when combined, and all the scientific knowledge that has been discovered about their actions and uses is accessible in a host of books. Even the combinations of the drugs in these secret preparations, as a rule, possess no novelty.

The physician who spends four years of his life in a medical school, with the honest purpose of learning how to diagnose diseases and select proper remedies, is fitted to perform his avowed functions. So is the druggist who graduates from our schools of pharmacy and learns the art of compounding medicines. Could there possibly be any better system devised for the care of the public health than to have one class of men intellectually trained and fitted to select means of cure, and another similarly trained to prepare them? The doctor diagnoses and prescribes, the druggist dispenses, and the patient conscientiously takes the doctor's orders and the druggist's medicine. That is the coöperation which should always obtain in order that the health of a people may be kept up to the highest possible standard.

A physician ignores his profession, his best interests, and his duties to society when, after being entrusted with the legal right to practice medicine, which carries with it an obligation to do his utmost in safeguarding the health of the community, he permits a patient to use a medicine of unknown composition. Because a secret remedy has occasionally given good results is no justification for its general use.

The united efforts of the physician and pharmacist is the only means of awakening the public to the iniquitous fraud that is being daily perpetrated on a fad-loving public assisted by an unscrupulous press. The patient should be educated to the folly of self-medication, the dangers of unknown and possibly morbidic drugs, the necessity of a correct diagnosis, and the criminally fraudulent claims of patent medicine advertisers.

When the patient refuses to be duped longer by catchy and convincing advertising, and is willing to go to the physician when in need of medical attention and carry out his orders as he would his lawyer's; when editors who, because of their public position, are morally obligated to protect their readers against fraud, shall refuse to accept advertisements of fake remedies, no matter how inoffensively worded; then, and then only, will the patent medicine industry be compelled to resort to honest methods of doing business.

Physicians should work unitedly and individually to restrict the sale of dangerous or notoriously fraudulent remedies and all those of unknown composition, by not only refusing to sanction their use, but by neglecting no opportunity of warning their patients against these menaces.

The pharmacist should discourage the sale of them as much as possible by refusing to advertise them, by placing them in an inconspicuous part of the store, and by making extremely conservative statements when consulted as to their value, assuring the customer that he knows nothing of their composition, possible virtues, etc., beyond what is claimed on the label, and that his guarantee of purity does not extend to that part of his stock. He should also offer the physician every facility for rapidly, carefully, and conscientiously filling his prescriptions, and provide his customers only with drugs and chemicals which he has himself tested, examined, or manufactured, so that he can give his personal guarantee for their purity and reliability.

Much has already been done to improve the conditions that govern the use and abuse of medicines; but until the rank and file of both professions is enlisted actively in the struggle, and demands the passage of just laws that would regulate the evils, but not impair the rights of patent medicine manufacturers, we cannot hope for completely satisfactory results.

J. PERCY REMINGTON.*

REMARKS ON SOME PAROXYSMAL NEUROSES.

THE term neurosis is used to describe nervous affections in which the functional disturbances are not as yet satisfactorily explained. For some of these definite causes are assigned, but they are disputed. A large group of these have associated with them motor derangements and are often called the paroxysmal neuroses. There is perhaps enough known of these to enable us to systematize the etiologic factors common to all, and indicate a similar pathologic starting point, but this has as yet not been done in a fashion to win general acceptance.

Whatever the essential causes, the element of motor disturbance can be dealt with clinically on similar lines. The indications for treatment are: 1. To regulate nutrition, conditions of protoplasm, the metabolic factors, to reorganize the quality of the blood in respect to toxics, toxins, oxygenation, katabolism. 2. To regulate the vasomotor mechanisms, whereby the blood shall be distributed where needed, less or more. 3. To employ drugs to meet (so-called) specific needs of the organism, so far as we know or can reasonably infer them; or to control symptoms. 4. To reëducate the motor centers, to regain coördination through systematized movements.

It is to the last division chiefly that our attention will be herein given; the other measures are well appreciated, but this is an important auxilliary measure still undeveloped.

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Whatever the starting point of the paroxysmal neuroses, or of those disorders which are characterized by involuntary movements, there is one principle of treatment which must be kept in view, viz.: to secure reinstatement of accurate coördination. While the acute causal factors, for the most part toxic, are active, there is need for passive measures, rest, nutritive regulation, sedative drugs, heat and cold. So soon as these are no longer dominant it should not be assumed that nature alone may be entrusted to bring about prompt return to full health. At this point the departure begins for a variety of sequellæ, some of which may become ineradicable life-habits, *e.g.*, epilepsies, chronic tics, asthma, tremor, etc. It seems to me more than probable that judicious treatment of many of these conditions, in their incipience, would result in many full cures. One word about the use of drugs in children, especially during the acute stages, and in subacute conditions, at the beginning of treatment. It is a valuable rule to use small doses frequently repeated, each hour or two, till the organism becomes adjusted to the remedy and its effects can be estimated. Later this dose may be increased in size, if necessary, and the interval lengthened. Wherever motion is disordered, coördination impaired, there is loss of balance in the action of the motor cells. Even in the acute conditions rest should be supplemented by some training in accurate use of the parts, if permissible to use them at all. When a habit is formed, as in tics, choreiform disorders, paralysis agitans, and other forms of tremor, there is reason to assume exhaustion in certain motor cells. While it is often injudicious to encourage much active use of the parts, certainly not to the point of great fatigue, still it is my personal experience that a moderate amount of passive stretchings seems to act as a benign stimulus to the centers, and as a sedative. This may be accompanied by systematized movements to advantage. In the subacute and chronic motor derangements, especially the rythmical ones, tics, tremors, and late in chorea, in choreiform disorders, spasms of muscles (*e.g.*, of respiration and deglutition), and upon the effects of contractures following cerebral palsies, they exert a beneficent influence. It has been my experience that regulated movements, both passive and active, materially aid in securing a prompt and complete cure. The reason for this seems to me to be that normal motor stimuli are supplied, inducing full functionation of the motor cells in the brain, also by establishing accurate motor habits in the lower motor areas, substations, and peripheral nerves. My results in the relief, and occasional cures, of paralysis agitans have been set forth at length.^{1 2 3} The chief object in overcoming tremor is to secure muscular competence, freedom from contractures, and elasticity of the machinery of motion. Then only can the nutrition of the various centers, primary

¹ J. Madison Taylor, *Journal of Nervous and Mental Diseases*, March, 1901.

² J. Madison Taylor, *Therapeutic Gazette*, July 15, 1903.

³ J. Madison Taylor, *Monthly Cyclopædia*, May, 1905.

and subsidiary, become amended, and normal activities achieved. The educative movements should consist of, first, passive pullings, stretchings, torsions; later, active deliberately-accurate extensions, rather than flexions (in arms), flexions of the legs, rotations and bending, etc., of body wherever chiefly affected, but always of the neck.

The term paroxysmal neuroses, under which we may group migraine, asthma, epilepsy, eclampsia, tetanus, hydrophobia, etc., affords a convenient classification on which to base a line of treatment. There are other disorders which are closely analogous, such as chorea, convulsive tics, habit-spasms, tremors, etc. These are due to special graphic pathologic variations of motor action. The paroxysm is asserted by Francis Hare⁴ to be a conservative phenomenon, possibly salutary, inducing reactions which tend to overcome the underlying conditions.

The sources of convulsions, as pointed out by Sajous,⁵ are twofold: 1. A toxic in the plasma circulating in the nervous elements; 2. Excessive activity of the pituitary body, leading to a corresponding marked oxidation in all organs, including the muscles. The first is pathologic, the second is probably an exaggerated manifestation of normal function, possibly protective. He contends that the point, paramount to therapeutists, is that systematic oxidation processes are increased by the use of thyroid extract or substances which enhance thyroid action. It is plain that oxidation is the underlying factor which prevents, directly or indirectly, the accumulation of spasmogenic elements. The blood is purged of its toxic elements through increased tissue respiration, hence these are made benign eliminable products. The spasmogenic poison is thus overcome by the protective action of the adrenoxin, which the adrenal secretion becomes while traversing the lungs. Hence the line of treatment Sajous advocates is to increase the functional activity of the adrenal system. The use of iodine or mercury and other agents which tend to increase oxidation and metabolism should be regarded as an important feature of the treatment. In support of the above Hare (*op. cit.*) concludes that hyperpyræmia, or the formation in excess of imperfectly oxidized carbonaceous material in the blood, is a common humoral factor in some cases. Bishop⁶ also points out experimentally that some children have especially low tension without cardiac or renal symptoms, the blood circulating too easily.

Closely related to the above, symptomatically, are the convulsive or motor tics, characterized by excessive or perverted motion. These vary in frequency, amplitude, duration, and may affect any part of the muscular system and consist of grimaces, gestures, contortions. As H. T. Patrick⁷ says, tic may be called a habit-spasm, but

⁴ Francis Hare, *Practitioner*, February, 1906.

⁵ C. E. de M. Sajous, *Journal of the American Medical Association*, February, 1905.

⁶ Bishop, *Annals of Gynecology and Pediatrics*, February, 1906.

⁷ Hugh T. Patrick, *Journal of the American Medical Association*, February 11, 1905.

it is much more than a habit and less than a spasm. It is an uncontrolled impulsion, common in children and occurring, or continued, in adult life. In its inception it is voluntary, becoming finally automatic. The origin is usually sensory. The cause is generally some form of sensory impulsion, *e.g.*, sniffing, twisting of face, licking of lips, stretching of a limb when stiff or sore. Or it may be pure imitation in children. The underlying cause is a psychic state; finally it becomes an obsession. Some individuals are of greater hypersensitiveness, instability, impressionableness, with lack of inhibition.

A tic is the representation of a normal act repeated in similar directions, with tiresome iteration. It is capable of restraint with more or less, sometimes intense, effort, and the cure lies along that way; it does not derange voluntary movements. The location may change, or alternate. The degree of curability is measured chiefly by the intrinsic quality of the patient, who is usually of a neurotic constitution, hypersensitive, of unstable equilibrium, physically and emotionally; children are susceptible subjects. A psychosis is always somewhere detectable. Physical causes are usually such as induce reflex irritation and must be sought for diligently and persistently. Suggestion, kindly but dominant, is powerful for good, but depends on the quality of the mentality, usually inferior, but is sometimes successful. Hypnotic suggestion is efficient at times in both children and adults. I cured in this way a man who had baffled the greatest authorities for over twenty-four years. Medicines are of little use. Apomorphia is among the best of depressants, even among children. Chloral, bromides, cimicifuga, lupulin, etc., are serviceable. Sleep prolonged by artificial means is a useful measure. The best single means is systematic exercises. Brissaud recommended this, and Meige and Feindell wrote a monograph on a system they elaborated.⁸

I myself advocated this measure⁹ under the title "Reéducation of Coördination." Success can only come by a thorough appreciation of definite motor principles. These are that, accuracy being seldom acquired, hence evil habits, incoördination, automatic movements, are readily induced, absurd gestures and attitudes. This education must be based on one fundamental principle, that to attain efficiency a movement should begin from a state of full relaxation and be carried through by a steady increment of force to the point of full tension with steady, direct aim. In chorea the motions are errant, rarely purposive or feebly so, hence the object is to attain accuracy in the elemental motions. The result of this educative treatment is usually most gratifying, after due attention is given to rest, nutritive repair, and the like. In habit-spasm, convulsive tic, hysterical movements, etc., there is usually some definite, seemingly purposive, act to combat. Hence it is well to negative this

⁸ Meige et Feindell, *Les Tics et leur Traitement*, Paris, 1902

⁹ J. Madison Taylor, *Treatment of Chorea*, Philadelphia Polyclinic, January 11, 1896.

by emphasizing the opposite movement. One example will suffice, though they might be multiplied. Reasonable ingenuity is always necessary. I cured a man who had suffered from childhood from a common form of motor tic, a grimace which involved a pulling downward of the eyebrows and puckering of the lips, by making him several times a day forcibly raise his eyebrows and open wide his mouth, turning his eyes up and maintaining this position as long as possible. Thus he educated and strengthened those opposing muscles which his automatic act had permitted to become weak; incessant action had hypertrophied those employed.

Pitres recommends respiratory education in tics. There is no doubt but that forced expiration as a part of motor-training is peculiarly useful in achieving equipoise. It exerts a powerful effect on restoring normal inhibition.¹⁰

In the treatment of acute (Sydenham's) chorea full consideration must be given to the diverse causes which combine to produce it. Choreiform movements due to heredity, chronic progressive chorea (Huntingdon's chorea) to habit-spasm, cerebral palsies, and other gross lesions, is another matter. These causes, direct and contributory, are divided¹¹ as follows: 1. Moral and intellectual strain, fright, sorrow, discomfort (Ross), imitation, shock. 2. Reflex irritation: eye-strain, intestinal derangements, parasites, abscess in tooth (C. L. Fisher), neuroma of foot (Borelli), arthritis, pericarditis, encarditis (less frequently rheumatic than is supposed), pleurisy, bronchitis, pneumonia, etc. 3. Abnormalities of the blood: anæmia, chlorosis, toxinæmia, sequellæ of infections (some hysterical cases may be due to these), mineral poisons, etc. 4. Lesions of the brain or spinal cord, or even reflex irritation of the governing centers, especially the segmental; capillary emboli of the optic thalami, "frequent but not constant" (Broadbent) hyperæmia, lesions of the Rolandic area, multiple hæmorrhages, abscess of brain, leucocytic infiltration and alterations in the gray horns of the spinal cord. 5. Microbic infection, bacilli or diplococci, occasionally.

The treatment of all such conditions, then, must be moral, rational, as well as symptomatic. Motor-depressants are of occasional use (bromides, apomorphia, conium, lupulin, cimicifuga), but always rest, freedom from worries, dietetic care; hydrotherapy is servicable, especially the wet pack or prolonged hot bath. Certain tonics are occasionally necessary, phosphorus, glycerophosphates, iron, digitalis, sometimes strychnia or quinine, $\frac{1}{4}$ gr. dose.¹² Hudovering¹³ believes the lesions

¹⁰ Thus the method of a combined simple localized tension without mental effort and slow expiratory action (of Allen Lester Fowler is admirably adapted to overcome motor faults and many combined motor and psychic errors.

¹¹ Editorial, New York Medical Journal, February 3, 1906.

¹² Williamson, Lancet, August 22, 1903.

¹³ Hudovering, Archiv für Psychiatrie, vol. 36, No. 1; quoted by Spiller, Jour. Amer. Assn., February 11, 1905.

of minor chorea are infectious and that it is hæmotogenous, causing in mild cases disturbance of nutrition, in more severe cases change in blood-vessels, etc. Choreiform movements are always the expression of irritation of the pyramidal tracts in some part of their course.

The vasomotor factor in all these disorders is of great practical importance. Cure can often be effected by attention to this item alone. Francis Hare¹⁴ elaborates this view in respect to asthma. He shows that the special variation of vasomotor action which constitutes the mechanism of the rapid and evanescent bronchiolar obstruction responsible for the asthmatic dyspnœa is by no means limited to the bronchial area. It is a general variation in vasomotor tonus, involving a widespread area of vasoconstriction combined with a more or less localized area of vasodilation. The functional disturbance thus induced is distressing often beyond measure in asthma, but in other conditions, while less graphic or demonstrable, is inferentially equally forceful. In acute spasmodic states there is rapid shutting off of blood from wide or narrow areas; in the slower processes this factor is equally forceful. Regulation of the vasomotor action then becomes a powerful agent for relief and cure. I have pointed out frequently that this can be done best by alternating pressure on the erector spinæ muscles, inducing an afflux of less or more blood to the segmental centers in which lie the cell-bodies in the line of innervation to various viscera and affected parts. This can be done by the hand best of all, also by heat, cold, dry cups, electricity, or specially-devised machines. Francis Hare (*op. cit.*) recommends in asthma heat to the skin to induce surface dilatation, and the inhalation of very cold air to check dilatation in the bronchial area. Not only is vasoregulation effectual in acute disorders, but in chronic states. The manual treatment of asthma has proven of greatest value in my hands.

One final point in curing asthma, *i.e.*, inasmuch as the dyspnœa induces excessive inspiration, to cultivate the muscles of expiration will go far toward equalizing the pressure. Hence a sufferer from asthma should be taught in the intervals to forcefully expel all the residual air possible, to educate his diaphragm and external abdominal muscles; to achieve the fullest expiratory power. Remember that gentle exercise, protracted to over half an hour, tends to equalize blood-pressure. This, habitually practiced and increased in force, materially aids in restoring vaso tonus.

J. MADISON TAYLOR.

¹⁴ Francis Hare, New York Medical Journal, April 7, 1906.

Cyclopædia of Current Literature.

AGGLUTINATION AND THROMBOSIS.

That great lack of uniformity of opinion exists with reference to the answer to this question is *prima facie* evidence that the essential processes involved are not yet known. The hypothesis that coagulation of the plasma causes thrombosis is very old and has its adherents at the present time. Other students hold that agglutination precedes coagulation, and that two links in the chain are causal. Gutschy and Klemensiewicz have championed the idea that the primary formation of a fibrinous membrane at the point of injury is essential. These hypotheses have rested on purely morphological studies, yet the problem has been attacked, especially of late, by other methods. Sahli, in particular, has approached it from an experimental and chemico-physiological viewpoint. He has found that after an injection of leech-extract into a rabbit's blood, thrombi do not form about foreign bodies introduced into the blood. This, he believes, establishes the validity of the coagulation theory, since it is known that leech-extract hinders the coagulability of the blood.

Before a meeting of the Society for Experimental Biology and Medicine, held on February 21st, Leo Loeb reported on a series of experiments devised to clear up some of the discrepancies of various experimenters bearing on this problem. In arthropods, particularly in *Limulus*, he finds that the collection of blood-cells around the foreign body, which leads ultimately to the formation of a hyaline thrombus, is due to a primary process of agglutination, and that coagulation processes may

be excluded. Coagulation of the blood of the horseshoe crab outside of the body shows the same phenomena. In experimenting on birds and dogs he made the blood temporarily incoagulable by the injection of leech-extract or peptone. Exact records of the coagulation time were made. Then followed experimental injuries to the blood-vessels, and microscopical examinations were made in great detail.

The author believes himself justified in concluding that in invertebrates, as well as in vertebrates, an agglutination of blood-cells or of blood-plates may take place around foreign bodies or at the place of injury of the vessel-wall. This agglutination may be present without any simultaneous or preceding formation of fibrin being possible. The formation of such agglutination thrombi corresponds to the clumping of the same cellular elements outside of the body, where the agglutination can take place without being accompanied by any coagulative process. In birds the injection of the active principle of leech-extract does not materially alter the readiness with which a thrombus is formed. In dogs, on the other hand, it is very probable that injections of hiurdin may delay or prevent the formation of agglutination thrombi. The effect, however, is not directly due to the inhibition of the coagulation of the blood, but probably to changes in the blood which will still have to be determined. Loeb's conclusions are thus in accord with those of a number of workers who, from the results of bacteriological investigation, and from the lessons taught by toxicologists working on blood-poisons, believe

that agglutination is a fundamental precursor to coagulation and the formation of thrombi. Editorial (New York Medical Journal, April 7, 1906).

ANÆMIA AND DEFECTIVE GASTRIC JUICE.

The writer relates his clinical experience to the effect that in patients with insufficient or lacking secretion of gastric juice there was always evidence of anæmia. In hyperacidity the hæmoglobin was above normal, and in nervous dyspepsia it was practically normal. Only in the cases ranging from subacid gastritis to gastric achylia was anæmia the constant finding. His experience further demonstrated that administration of natural gastric juice from the dog, supplying the missing element for gastric digestion, was followed by the subsidence of the anæmia. The supplementary gastric juice insured proper nourishment for the elements of the blood. F. Rollin (Berliner klinische Wochenschrift, Bd. xliii., Nu. 5; Journal of the American Medical Association, March 31, 1906).

ARTERIOSCLEROSIS, CAUSATION OF.

Arterial disease is divided by the writer into two main groups, the focal or nodular, and the diffuse. In the first only a small portion of the arterial walls may be involved. The lesions are most common in the larger vessels, and if the viscera are involved, the lesion usually results from occlusion of a single vessel. Atheroma may be regarded as the general form for this lesion, and it may result from syphilis, tuberculosis, intoxications, infections, or arteriosclerosis. It may also result mechanically from irritation or strain frequently repeated. Arteriosclerosis is the diffuse arterial disease, and is best marked in

the smaller vessels. The resilience of the vessel is impaired in the advanced cases. It may be due to renal disease, or to chronic intoxication of various kinds, while its essential cause is increase of the arterial tension. J. M. Cowan (Practitioner, March, 1906).

ARTERIOSCLEROSIS, REDUCTION OF BLOOD-PRESSURE IN.

The abnormally high arterial pressure in arteriosclerosis is regarded by the writer as a self-regulating process. When the blood-pressure is not high, treatment should aim to raise it, possibly by carbonated saline baths, not over 30 C. (86 F.) in temperature. In cases with moderately increased arterial pressure, the viscosity of the blood should be gradually reduced and kept down by a gradually progressive course of iodides. In patients with very high arterial pressure the danger of rupture of a blood-vessel should be averted by periodically repeated venesection, keeping the viscosity of the blood reduced with iodides. A. Erlenmeyer (Deutsche klinische Wochenschrift, Bd. xxxii., Nu. 7; Journal of the American Medical Association, April 14, 1906).

ASTHMATICS, PAIN IN THE LIVER IN.

Attention is called by the authors to the pain distinctly localized in the liver region which may be observed in some cases of asthma, the exacerbations of the pain corresponding with the attacks of asthma. This hepatalgia may occur at any stage of asthma, although less pronounced in its early phases. It may become so severe as seriously to incommode the patient. Three cases are reported by the writers. The pain in the liver region had been long observed; it was increased by pressure, but was not accompanied by any appreciable enlarge-

ment of the organ. The authors attribute the condition to congestion of the liver from impending asystolia. The cholemic condition of their patients, the persistence of the pain between the attacks of asthma, its resistance to all the usual therapeutic measures, and the prompt relief after blood-letting, are a train of symptoms revealing passive congestion on the part of the parenchyma of the liver. When the congestion has continued until there is destruction of part of the liver tissue and of the nerve terminals, the organ becomes less sensitive. In two cases the patients were relieved of the hepatalgia by absolute repose, a milk diet, and venesection or wet-cupping. In one case the hepatalgia had been noted for fifteen years. Gilbert and Villaret (*Presse Médicale*, Vol. xiv., No. 11; *Journal of the American Medical Association*, April 21, 1906).

CEREBRAL PARALYSIS.

The preventive treatment is the treatment of arterial degeneration. Cases which do not have a specific history are much benefited by a course of gold and sodium chloride, with the pulverized resin of guaiac, to be put dry in a capsule, and administered before meals. Kidneys, skin, and bowels should also receive due attention.

The treatment of apoplexy depends on the diagnosis of the lesion. In hæmorrhage, arterial tension should be reduced; croton oil administered, to promote the influx of blood into the abdominal vessels; ice should be applied to the head, and mustard plaster to the feet. Tincture of aconite should be given.

In thrombosis the treatment should be diametrically opposite. Arterial tension is to be increased by strychnine and

other cardiac tonics, active purgation is to be avoided. In the great majority of cases the safe treatment will be characterized by inactivity. With the disappearance of the apoplexy attention should be given to the paralyzed muscles. D. R. Brower (*Journal of the American Medical Association*, March 31, 1906).

CEREBROSPINAL MENINGITIS, EPIDEMIC

In a study of 15 cases of epidemic cerebrospinal meningitis, the organism isolated from the spinal fluid, circulating blood, pus from the conjunctiva, and from the central nervous system at autopsy, agreed in all respects to the *diplococcus intracellularis meningitidis* of Weichselbaum. It was isolated in pure culture from the spinal fluid of the 14 cases in which lumbar puncture was performed, and is to be considered the causal agent in all the cases.

This organism was obtained from the circulating blood of two of the four investigated cases, but in one only did it grow on the various culture media. The writer considers that this organism is probably only an occasional invader of the circulating blood. It may be present in the blood for many days during the course of the disease, and does not occur only as an agonal invader of the blood.

The *diplococcus intracellularis* may occur in the pus of purulent conjunctivitis, a complication not infrequently seen in meningitis. It was isolated from one of the two cases which showed this complication in the writer's series.

Secondary lung-infections with pyogenic organisms are frequent, and a terminal bronchopneumonia was found in 5 of the 6 cases that came to autopsy, all of which showed the presence of py-

ogenic cocci. G. C. Robinson (American Journal of Medical Sciences, April, 1906).

CEREbroSPINAL MENINGITIS, IODINE IN THE TREATMENT OF.

The use of iodic acid and its sodium salt (sodium iodate), rather than the halid salts of iodine, is advocated by the writer in the treatment of cerebrospinal meningitis and in all cases in which energetic action of iodine is desired. In his experience it prevented the development of serious sequels of meningitis. He supplements it by application of ice to the back of the neck as well as to the head, and he also gives potassium bromide in large doses to control the cramps and the tendency to vomit. Lumbar puncture and inunctions with silver salts are also useful adjuvants, according to the author. The sodium iodate has also done good service in cases of chronic glandular enlargement. G. Edlefsen (Berliner klinische Wochenschrift, Bd. xliii., Nu. 5; Journal of the American Medical Association, March 31, 1906).

DILATATION OF THE STOMACH, ACUTE.

The onset of acute dilatation is sudden. The pain may be severe; the vomiting is quite characteristic, brown, grayish, greenish, or black, and large in amount; the urine is scanty, the bowels loose or constipated; the temperature is often abnormal, and the pulse small and rapid; the picture of collapse is well marked. The abdomen is distended; the stomach-tube withdraws a large amount, often very offensive fluid; and the stomach can be outlined as greatly enlarged. The diagnosis is not easy to be made; important is the succession sound. Only an extremely small number of the diagnosticated cases have re-

covered. The treatment should consist in frequent gastric lavage, saline solution by the bowel and under the skin, nutrient enemata, strychnine, and other stimulants hypodermically. A binder is also used. Some advocate gastrojejunostomy. J. B. Herrick (Journal of the American Medical Association, March 31, 1906).

EMPyEMA, CHRONIC, DISCUSSION OF PLEURA IN.

In the operation for chronic empyema with fistula, certain rules can be formulated, which, if followed without making every operation absolutely schematic, will be reasonably certain, after one or two procedures, to cause complete obliteration of the cavity, with very liberal expansion of the retracted lung.

Every operation on the thorax for pleuritic effusions of any kind should be done with the patient upon his back or slightly resting on the sound side. An incision should be made above the fistulous opening and a piece of one or two ribs removed in order that the cavity may be subjected to inspection and to touch. According to the size of the cavity thus determined, multiple subperiosteal rib resections are to be made, either through a number of parallel incisions, through the U-shaped Schede incision, or through a trapdoor incision, a method favored by the French surgeons. It matters little which of these methods be practiced, provided that the secretions be ample and that the thickened parietal pleura be excised.

Attention should then be given to the diaphragm and the pulmonary pleura. If the thickened pleura can be removed by decortication easily, it is perhaps preferable. If ample expansion of the lung does not ensue, an incision in the

groove of reflexion of the costal and pulmonary pleura must be made. The condition of the patient should be watched, lest too much be done at one sitting. When the cavities are large, repeated operations are necessary for the safety of the patient. Joseph Ransohoff (*Annals of Surgery*, April, 1906).

EPISTAXIS AND CALCIUM CHLORIDE.

In epistaxis the writer advises the use of calcium chloride in twenty-grain doses, to be given at intervals of two hours if necessary, and then, whether the bleeding stops or not, to withhold the remedy for several hours. Its persistent administration will diminish, not increase, the coagulability of the blood. H. S. Ware (*British Medical Journal*, February 24, 1906).

ETHYL CHLORIDE.

McCardie states that consideration of the average death-rate and of the chemical constitution of ethyl chloride make it appear to be less safe than ether and far less safe than nitrous oxide. The latter should be used whenever it is reasonably possible, and ethyl chloride when nitrous oxide is impossible and when ether and chloroform are unnecessarily lasting and powerful in their effects. Ethyl chloride is to nitrous oxide as chloroform is to ether, *i. e.*, ethyl chloride may be compared to chloroform in the ease and convenience of its administration and its high power of narcosis. Knight does not consider it nearly as safe as nitrous oxide in the hands of the untrained, but it is taken exceedingly well by children of a few weeks or months, and hence is an excellent anæsthetic for circumcision. It is not wise to use it if a purgative has been given and its action is still proceeding. It is very reliable; only in rare cases is it impossible to get a patient under its in-

fluence. As a preliminary to chloroform it is a pleasure to use, but is not suitable for prolonged operations. (*British Medical Journal*, March 17, 1906).

EXOPHTHALMIC GOITER, SURGICAL TREATMENT OF.

The writer observes that there is increased opposition to surgical treatment, though nonsurgical measures, including sera and the X-ray, have not been specially successful. The author believes that surgical treatment should be given to severe cases which have resisted medical treatment, but this should not be delayed too long, as that would necessarily imply less favorable results than if undertaken when symptoms were less urgent and the patient in a more favorable condition. He does not wish, however, to advocate immediate and early operation in every case, since there are many recoveries without operation, and there is a mortality even in the less severe cases. The only operations which are feasible are partial thyroidectomy and extirpation of the cervical sympathetic nerve and ganglia. Ligation of the thyroid vessels has a palliative effect and is useful as a preliminary to thyroidectomy. The removal of the cervical sympathetic was advocated by Jonnesco in the hope of avoiding acute thyroid poisoning, but in the author's hands it has given no better results than thyroidectomy. It is advisable to divide the operation by performing preliminary ligation of the arteries, to use local anæsthesia, and to give the patient several weeks of preliminary treatment in a hospital. B. F. Curtis (*Annals of Surgery*, March, 1906).

FRACTURES, MODERN TREATMENT OF.

The Röntgen method, in combination with the usual methods of examination, determines the character of a suspected

bone injury. If there be no bone injury, the proper treatment consists in massage followed by immobilization, a movable splint being preferable for the latter purpose. If there is a fissure or fracture, followed by no displacement, manipulations of the injured area must be avoided and immobilization in the most comfortable position applied. As a rule, a plaster-of-Paris dressing answers the purpose best. After two or three weeks it must be removed and massage begun. In about two weeks a splint of plaster-of-Paris is applied, which the patient can take off and reapply.

If there is any displacement, reduction must be tried at once. This can be done under the control of the fluoroscope, on a translucent table, a plaster-of-Paris dressing being applied after reposition is perfect. This is a simple, short and cheap method. A more tedious, but a safer, way is to reduce the displacement under the guidance of a skiagraph taken before. This will indicate in which direction the efforts at reduction must be made, and how far. After a plaster-of-Paris dressing, padded with cotton layers at its ends only, is applied, the skiagraph is taken through it, in order to ascertain whether reposition is complete. If it does not seem to be, the dressing must be removed and another attempt at reposition made. If the process of reduction meets with difficulties, an occurrence which can, as a rule, be anticipated from the nature of the skiagraph, anæsthesia should be employed.

In those cases in which, on account of entangling of the fragments, extensive splinter formation, or similar complications, reposition, even under anæsthesia, cannot be accomplished, the fragments must be exposed by the scalpel and brought into apposition. If there be no

tendency to displacement, a plaster-of-Paris dressing will insure immobilization. But if the fragments slip out easily, it is safer to unite them with catgut, provided there is enough periosteum to be utilized for that purpose. Otherwise it is best—especially if large bones come into consideration—to keep them together with a bronze wire suture. The sooner this is done, the better it will be, because the smaller are the changes taking place in the soft tissues. Carl Beck (*Medical Record*, March 24, 1906).

GALL-STONES, DIAGNOSIS OF.

The author has found that stones chronically impacted in the common duct give rise to a definite symptom-complex, which, when present, enables the diagnosis to be made with certainty. Two postulates form a desirable but not essential preliminary: first, the undoubted evidence of the existence of gall-stone disease; and, secondly, the at least occasional coloration of the stools with bile pigment. The author's symptom complex contains three elements. The temperature is usually normal, but at more or less regular intervals periods of fever appear, to be followed by a return to normal lasting from a few days to several weeks. The elevation of temperature may reach 41° C., and lasts for one or two days, after which it returns to normal by crisis. These periodical elevations of temperature are regularly accompanied by a deepening of the already existing jaundice. In those patients who are not habitually jaundiced, icterus appears at these times. When the temperature goes down, the coloration of the skin also returns to the condition usual for the patient. The third element consists in the fact that, although the liver may be

sensitive to pressure, these periodical attacks are usually not associated with any noteworthy subjective disturbance, the pain ordinarily present in cholelithiasis being conspicuous by its absence. The author affirms that while every case of stone in the common duct may not give these symptoms, in every instance in which this triad does occur the existence of a stone impacted in the region indicated may safely be assumed. Ehret (*Münchener medizinische Wochenschrift*, January 16, 1906; *Medical Record*, February 10, 1906).

GANGRENE OF DIABETES: TREATMENT.

Discrimination must be made between two forms of gangrene which may supervene in the diabetic: the idiopathic and the gangrenescent inflammatory variety. Idiopathic gangrene in the diabetic does not depend so much upon the glycemic as upon the arteriosclerotic and phlebosclerotic conditions in the organism, and inflammatory gangrene is the result of the activity of virulent micro-organisms upon tissues vitiated by deficient nutrition and autotoxic processes.

Idiopathic gangrene was not encountered oftener than in 1 per cent. of all diabetics under the writer's observation, while gangrenous processes due to bacterial invasion were diagnosed in 10 per cent. or 12 per cent. of cases met in consulting practice. Idiopathic gangrene may ensue in persons who have undergone, or are still undergoing, antidiabetic treatment, and who are quite robust and in a fair state of nutrition; and gangrene taking its origin from inflammatory conditions mostly supervenes in diabetics, who are either affected with a grave form of the disease or in whom a proper dietetic and hygienic antidia-

betic treatment had never been executed.

The best prophylactic of gangrene in the diabetic is the suppression or reduction of the diabetic syndrome. Together with the attempt at the suppression of the hyperglycemic condition, an abortive hygienic treatment should be instituted. Besides such measures, some additional expedients have to be resorted to in the presence of angiosclerosis, as this is the apparent forerunner of the idiopathic type of gangrene. Every diabetic is a fit subject for antiangiosclerotic treatment whose radial pulse-pressure is above 150 mg. Hg., even if a hypertrophic state of his heart and the accentuation of the second aortic sound are as yet not plainly discernible.

The management of a fully established gangrene in the diabetic cannot be undertaken according to iron-clad rules. Lesser lesions, as gangrenescent furuncles, carbuncles, and skin necrosis, will often heal after institution of an antidiabetic regimen and antiseptic local measures. Idiopathic gangrene in the diabetic is always of the dry, aseptic form, and progressive gangrene in the diabetic, as in non-diabetics, is of a moist, of a septic nature. With the means at our disposal we should aim to keep dry gangrene in a dry state, and to convert humid gangrene into the dry variety.

Idiopathic, aseptic, dry gangrene should not be immediately treated by radical measures, but time, during which the patient is under a diabetic regimen, should be allowed for the formation of the line of demarcation. For a short period, an antidiabetic regimen should be instituted in cases of gangrenescent inflammations of non-febrile character before a capital operation is to be performed, but an operation should be

immediately resorted to at the slightest elevation of temperature. A radical operation may prolong the life in septic cases of progressive gangrene, provided the patient is in a fit condition to undergo such a procedure. There is little to be expected from an operation when the patient is in a very low state of vitality, when general septicæmia is pronounced, when the heart is rapidly failing, when there exists glycemia of great intensity, when coma is threatening or has already supervened, when more than one limb has become gangrenous, or when a "high operation" is to be performed. Exarticulation is recommended by the writer in preference to amputation. H. Stern (Medical Record, April 21, 1906).

HÆMATOMA OF THE OVARY.

Hæmatoma of the ovary occurs in the first half of menstrual life, in the married and the single. The disease tends to be bilateral, and appears not to be associated with gonorrhœa or tubercle, but may be caused by certain forms of septic infection; but more evidence is needed. The onset may be acute, but the pain becomes chronic and is located in the lower abdomen. Menstruation is not affected, though there may be slight menorrhagia. Dysmenorrhœa may occur. There is marked disorganization of the ovary, converting it into a firm, non-collapsible shell of ovarian tissue of very varying thickness, due mostly to œdema and interstitial extravasation of blood. The contents consist of dark chocolate blood, generally of a viscid character. Broad adhesions to surrounding parts are always present, being an indication of inflammation of a more or less severe nature. The adhesions are more marked where the tumor is thinnest.

The Fallopian tubes more often than not show no gross changes, although primarily it is possible that they may have been inflamed to some slight degree. The relative freedom of the tube is in marked contrast to what obtains in the ovary. Smallwood Savage (British Gynæcological Journal, February, 1906).

HÆMORRHAGE, INTERNAL: TREATMENT

The various hæmostatics—the tannins, adrenalin, digitalis and its allies, ergot, veratrine, barium, and lead—are considered by the author as worse than useless for hæmoptysis or hæmorrhage from the brain or liver. As to the drugs upon which dependence may be placed, the writer considers that it is of the utmost importance to prevent any stimulation of the heart or vasoconstriction, either of which may be produced very readily reflexly by any mental disturbance. The most efficient prophylactic is to diminish all sensory reflexes by means of morphine. It probably does more good than any other drug. Calcium is the drug for augmenting the clotting power of the blood. It should be administered preferably in a dissociable form, such as the neutral chloride solution. In urgent cases it may be given subcutaneously in doses of one to two grains, deeply into the subcutaneous tissues, to avoid local irritation. W. E. Dixon (Lancet, March 24, 1906).

HÆMORRHAGIC DIATHESIS, ETIOLOGY OF.

This subject may be conveniently treated from two etiological points of view: 1. In a broader sense as an acquired transient condition; and 2, from a more restricted view, as a hereditary, habitual affection, commonly known as hæmophilia. The writer's definition of

the acquired hæmorrhagical diathesis is that it is a temporary tendency to bleed, and is usually developed secondary to some disease or condition in which there is a marked disturbance in the physiological relations between the blood and the walls of the vessels. Clinically, it is this form of the dyscrasia which is most frequently met with. The author classifies it as follows: 1. Infectious diseases and toxic conditions as etiological factors, such as malaria. 2. Cachectic conditions. 3. Purpura hæmorrhagica. 4. Hæmophilia. A transient hæmorrhagical condition is sometimes developed in the severe types of the acute infectious diseases, as in variola, measles, typhus fever, infectious diseases of the newborn, etc. Here it is symptomatic and is due to the chemical action of the toxins on the walls of the vessel and to their poorly nourished condition. The hæmorrhages are petechial in character and can scarcely be considered more than indicative of a very intense degree of infection. In hæmophilia the predisposing element is heredity; the proportion of males to females affected is about thirteen to one; the Anglo-German and the Jewish races seem to be predisposed to it, and some authors attribute it to the greater frequency of consanguineous marriages among these people. W. W. Carter (*American Medicine*, March 24, 1906).

HEPATIC ABSCESS.

Abscess of the liver may follow malaria and typhoid fever, on account of the congested condition of the liver occasioned by these diseases. Abscess of the liver may be seen with absence of fever, dysentery, and jaundice. Aseptic aspiration is the only positive way of clearing up a diagnosis of pus in the liver. The finding of malarial plasmo-

dium in the blood or the amœbæ coli in dysenteric stools aids in the diagnosis. With perfect adhesions, no leaky drains, the prognosis in single tropical abscess of the liver should be favorable.

Free drainage without irrigation is the safest rule in treating this condition. Perhaps dysentery as a cause of liver abscess has been exaggerated, as it may be a coincidence in some cases instead of the real cause. L. Sexton (*New Orleans Medical and Surgical Journal*, April, 1906).

HEPATIC CYSTS, NON-PARASITIC.

Non-parasitic cysts of the liver are associated with congenital anomalies in other parts of the body, especially with cysts of the kidney. Such cysts of the liver are always associated with congenital anomalies of the liver, consisting in aberrant bile ducts, which may be extrahepatic or intrahepatic. These aberrant ducts are embryonal "rests," formed in the course of development of the liver, and have thus far been found only in cystic liver or in livers associated with cystic kidney.

Non-parasitic cysts of the liver have their origin in these aberrant ducts, and may assume two forms: One, arising from inflammatory hyperplasia of these ducts; the other, by retention of fluids in these ducts, as the result of congenital obstruction. The writer considers that there is no valid reason for classifying these cysts among tumors. Eli Moschcowitz (*American Journal of Medical Sciences*, April, 1906).

INFANT-FEEDING, FAT PROBLEMS IN.

As the result of clinical observation and experimentation, the writer concludes that the digestion of fat retards the flow and diminishes the amount of gastric juice, at the same time lowering

its digestive power. The ingestion of fluid oil increases the flow of pancreatic juice and probably the activity of its fat-splitting enzyme, steapsin. In case the fat is not fluid at body temperature, it may still further retard and prevent the flow of gastric juice, coating over the gastric mucous membrane, thereby mechanically interfering with secretion. In the case of coagulable food, such as caseinogen, it may cover the curds with a layer of insoluble fat, thereby preventing the action of gastric juice on them, though the juice be secreted in sufficient amount and power; and also by preventing the action of the trypsin on them, though brought in contact with an increased supply of pancreatic juice, assuming that the action of the steapsin on the fats will be practically *nil*, or at least much impeded by the insolubility of their fat-covering, permitting the curds to pass undigested. If goat's-milk fat more closely approximates human-milk fat than that of cow's milk, and if the proteid and sugar constituents are not more incompatible than in cow's milk, and if there exists no serious commercial obstacle, goat's milk merits an extensive and thorough clinical trial in infant-feeding. J. F. Bell (*Archives of Pediatrics*, March, 1906).

INTESTINAL OBSTRUCTION.

Death from obstruction is rarely, if ever, due to the mere fact that the bowels do not empty themselves. It is usually due to strangulation with peritonitis, in which the distension plays an important rôle. Nonoperative recovery is not an impossibility in rare cases, but this should be regarded as a very remote possibility and operation performed as soon as the diagnosis can be made. Visible peristalsis is an important indication of obstruction, while visible coils

without peristalsis indicates paresis of the intestines. Hiccough and the frequent regurgitation of fluid from the stomach, even though this fluid be neutral, nonirritating, and clear, is of grave prognostic import. Gastric lavage should never be practiced before making the diagnosis and laying out the plan of action. Howard Lilienthal (*New York Medical Journal*, April 7, 1906).

INTUSSUSCEPTION, ACUTE, TREATMENT OF.

According to the writer, there is no form of abdominal lesion in which a successful issue is so dependent upon early treatment. In cases which are left to nature 98 per cent. die from general peritonitis, from toxæmia due to faecal obstruction, or from exhaustion. Reduction may be practiced by retrograde distention, or inflation, with or without external manipulation. Air, water, or hot milk may be used for the purpose. Success is sometimes possible, but failure will prejudice further treatment, and it is practically sure to occur in 34 per cent. of cases. Abdominal section at an early period is the method of election, the incision being median unless the indication is clearly in another locality. Reduction is effected by gently squeezing the intussusciptions, and not by traction on the entering layer. If gangrene has occurred, resection must be as extensive as may ensure sound tissue. T. Guthrie (*Practitioner*, February, 1906).

IODINE IN SURGICAL PRACTICE.

The writer considers that iodine is the antiseptic *par excellence* for the skin of the hands and operation-site. The solution of iodine is easily prepared and is stable. It does not coagulate albumin or form inert compounds with the tis-

sues. It is of more value in many ways than either carbolic acid or bichloride of mercury, and not nearly so poisonous. J. E. Cannaday (Journal of the American Medical Association, April 14, 1906).

IODISM, ACUTE, AND THYROIDITIS.

The writer refers to the well-known propensity of iodine, when given internally, to cause swelling of the parotid gland, an observation which he has occasion to make quite frequently in treating syphilitics in the polyclinic of the Berlin University. Swelling of the submaxillary glands is less frequent, but the author has observed three instances of it. It is still more unusual for the thyroid to be affected by the administration of iodine, but several cases have been reported in the literature and the author adds one of his own to the number. The patient was a woman of 52 years, who, four days after taking 20 cubic centimeters three times daily of a 5 per cent. potassium iodide solution, developed well-marked uniform swelling of the thyroid gland. On stopping the medication the swelling subsided, and on resuming the use of the iodide the enlargement promptly reappeared. The writer states that the observation is particularly interesting owing to the fact that the thyroid gland is the only organ which contains iodide *per se*, and experiments on dogs have shown that the thyroid gland is a site of predilection for the deposition of iodine. Lublinski (Deutsche medizinische Wochenschrift, February 22, 1906; Medical Record, March 17, 1906).

KNEE-JOINTS, NEW METHOD OF EXCISION OF.

A method of excision of the knee-joint is described by the author, which he thinks combines all the advantages of

other methods without possessing any of their disadvantages. The skin incision should be rectangular, the two vertical cuts being well back at the sides of the leg, extending from a little above the level of the upper limit of the subcrural bursa to one inch below the joint line. These two vertical incisions are connected across the front of the tibia by a transverse incision. This rectangular skin-flap with the subcutaneous tissue is reflected upward. The next incision is curved, the concavity upward. It starts in the vastus internus a little above the upper limit of the subcrural bursa, and is carried down and outward, in the direction of the muscle-fibers, to the tendon of the quadriceps extensor one-half inch above the patella, and from here upward and outward, in the direction of the fibers of the vastus externus, to a point corresponding to the beginning on the inner side. The muscle, with the tendon, is completely divided and turned upward, thus exposing to view the subcrural bursa. Two small incisions are made on either side of the femur, starting on each side of the patella in the incision just described, and carried downward and backward to the joint line. The one on the inner side divides the tendinous expansion of the quadriceps, the one on the outer side the tendinous expansion and part of the ilio-tibial band. After completing these incisions the subcrural bursa is separated from the femur with the knife and turned down, tilting the patella when not adherent.

The last incision in front is carried transversely across the front of the tibia, down to the bone just below the joint line. On the inner side the sartorius and gracilis are pushed back; on the outer side, the biceps and peroneal nerve. A flat retractor, about one inch

wide, is introduced on the inner side behind the head of the tibia, close to the joint line. It is first introduced vertically between the gracilis and sartorius on one side and the tibia on the other. These muscles are pried off and the retractor is brought to a horizontal plane, the apex passing behind the tibia. This retractor is now pushed outward, always close to the bone, until it emerges at the outer side. All soft parts are thus held back.

The next step is to saw through the tibia as close to the joint as circumstances seem to warrant, the leg being still flat on the table; the retractor being in place protects the soft parts. The saw-cut through the head of the tibia is used as a joint. The femur is flexed on the body, the leg on the femur, and with a large knife the soft parts are quickly separated from the posterior structures of the joint. By a little downward traction on the leg, combined with the pull of its own weight, injury to the vessels is easily avoided. As soon as the posterior region of the condyles is exposed the femur is sawn through from behind forward and slightly downward to a level sufficient to clear the cartilage behind. This saw-cut is carried forward until it reaches the margin of the cartilage on the anterior surface of the femur, and the saw is then withdrawn. The direction of this cut should be downward and forward, so as to lose as little as possible of the femur and to obtain the desired slightly flexed position of the bones subsequently. After withdrawing the saw from the femur the leg is once more placed in a horizontal position. The saw is introduced behind the subcrural bursa at the upper margin of the articular cartilage on the front of the femur, and a cut made

which will meet the anterior limit of the horizontal saw-cut made from behind. This last cut is almost vertical, in the coronal plane, and allows the articular portion of the femur, which extends upward in front, to be removed with the joint. This is the last step of the incision proper, for it is now possible to lift out the joint with the patella and subcrural bursa, the articular surfaces of femur and tibia, all complete without having opened the joint. On removal of the tourniquet the bleeding points can be quickly clamped and tied, thereby reducing hæmorrhage to a minimum. The subsequent steps of the operation differ in no way from those hitherto customary. C. P. Flint (*Annals of Surgery*, March, 1906).

LARYNGEAL TUBERCULOSIS.

The local treatment of laryngeal tuberculosis must always be accompanied by general treatment. Curetting and cauterization with lactic acid are the principal means of local treatment. Sometimes temporary cures are effected by this means, even in cases far advanced. For adaptation to surgical treatment, the disease must not be too extensive, and must be under the eye and hand of the operator at all times. Cachectic and febrile patients do not lend themselves well to curettage. A curative tracheotomy is rarely performed, and is best adapted to children, although it has lately been suggested as an adjuvant measure to the induction of abortion in women suffering from the disease. Laryngofissure and total extirpation of the larynx are not to be considered. G. Finder (*Berliner klinische Wochenschrift*, February 26, 1906; *New York Medical Journal*, April 7, 1906).

LEUCOCYTE COUNT, DIFFERENTIAL, IN SURGICAL DISEASES.

The writer considers that the differential blood-count and its relation to the total leucocytosis is to-day the most valuable diagnostic and prognostic aid in acute surgical diseases that is furnished by any of the methods of blood-examination. It is of value chiefly in indicating fairly consistently the existence of supuration or gangrene, as evidenced by an increase of the polynuclear cells disproportionately high as compared to the total leucocytosis. The greater the disproportion the surer are the findings, and in extreme disproportions the method has proved itself practically infallible.

As the relative disproportion between the leucocytosis and the percentage of polynuclear cells is of so much more value than the findings based on a leucocyte count alone, this latter method should be abandoned in favor of the newer and more reliable procedure.

The negative findings, showing no relative increase, or even an actual decrease, of the proportion of the polynuclear cells, while of less value, shows with rare exceptions the absence of the severer forms of inflammation. In its practical applications, the method is of more frequent value in the interpretation of the severity of the lesions of appendicitis and their sequelæ. C. L. Gibson (*Annals of Surgery*, April, 1906).

LUPUS VULGARIS, TREATMENT OF.

The treatment of lupus vulgaris by injections of tuberculin, the writer considers uncertain in results, and a method only to be employed when other means are inapplicable. The ideal method, he considers, is excision of the diseased patch, and bringing the edges of the

wound together with stitches, so as to obtain primary union of the edges; in cases in which primary union is either inexpedient or inapplicable, he advises skin-grafting, either by Thiersch's or Krause's method; by these means deformity may be in a great measure prevented. Volkmann's method of scraping with a sharp spoon is a much less efficacious means of dealing with the disease, and causes considerable bleeding; this method he considers should be used only in the extremities. The scarification method of Vidal is a tedious one, is painful, but is a good method of treatment for lupus affecting the nose.

A treatment which the author strongly recommends is the application to the diseased part of compresses soaked in a 1 per cent. solution of potassium permanganate, and changed frequently; to any ulcerated nodules he applies the dry potassium permanganate powder, and any deep-lying nodule he sticks with a pointed match dipped first in boiling water and then in the dry powder. On account of the simplicity of this method, and the non-poisonous properties of the permanganate of potash, the author thinks this a very good way of treating the disease; its drawback, however, is that it has very little action on the deep tissues.

Of the modes of treatment by the application of caustics to the diseased parts, the writer does not consider any of them ideal; some, such as pyrogallie acid, cause considerable pain, and if used on large extents of surface, where free absorption can readily take place, may cause symptoms of poisoning. A further disadvantage of all methods of treatment by the application of caustics is the fact that several repetitions are, as a rule, necessary before anything like cure occurs.

Freezing by means of the ethyl chloride spray is considered by the author as a useful means of treatment for lupus of the ear. It should not be used on ulcerated surfaces on account of the great pain which it causes. Burning by the galvano-cautery or by Paquelin's cautery he does not care for; but the application of hot air to the diseased part, according to the method first employed by Hollander, is considered a very good method of treatment.

Treatment by the Finsen light, which is now generally employed in those cases where excision of the diseased part cannot be carried out, has many advantages; it is practically painless, it can be used on the face in cases where other methods of treatment are inapplicable; the scar is very good. Its disadvantages are that the number of applications required before cure is obtained in some cases may be very considerable; any fibrous thickening or scar-tissue produced by other methods of treatment cannot be easily penetrated by the rays of the lamp; this method cannot be used for lupus of the nose.

The X-ray treatment has the advantage that it can be applied to large surfaces at one time, but it has the drawback that one cannot tell how intense the inflammatory reaction to the light will be, and there is a danger that this may be excessive after a few applications. The same objection holds to the treatment by radium.

In selecting a method of treatment the author rightly says that it should be as simple as possible, and treatment should be possible without the patient being confined to hospital or home. The cost of the Finsen treatment may be considerably lessened by first using other methods of treatment, and then completing the cure with the aid of the

Finsen lamp. In all cases where the face is the seat of the disease the greatest care should be taken to prevent any disfigurement or deformity, and any treatment carried out should be employed with the greatest care. Werther (Berliner Klinik, January, 1906; British Medical Journal, March 17, 1906).

MESENTERY, CHYLOUS CYSTS OF THE.

Chylous cysts of the mesentery are to be classed with the surgical rarities, being less common even than serous mesenteric cysts. Many of these cysts begin as multiple cysts, later become multilocular, and finally unilocular by the process of pressure-absorption. The origin of chylous cysts is manifold and the microscopic pathology varies equally; trauma seems to be a causative factor in quite a number of cases.

Diagnosis of cyst of the mesentery may be impossible, but in the majority of cases can be made before opening the abdomen; but the character of the cyst-contents cannot be determined by any safe procedure until the belly is opened.

The treatment consists in their removal by that technic which seems best adapted to the case in hand after it has been studied through the open abdomen. M. F. Porter (Annals of Surgery, March, 1906).

METRORRHAGIA MYOPATHICA.

Metrorrhagia myopathica stands for a distinct class of cases which have heretofore been variously and incorrectly grouped under apoplexia uteri, endometritis senilis, and preclimacteric bleeding. Metrorrhagia myopathica is a symptom immediately dependent upon an anatomical or a physiological lesion of the uterine muscle. No anatomical lesion has as yet been demonstrated, but it will probably be found in the elastic-

tissue constituents of the vessel walls and the subserous and supravascular layers. The physiological lesion is most likely an insufficient contractile power of the uterus. It is possible that the condition is purely functional and that there is no anatomical change which can be recognized.

In cases of metrorrhagia myopathica the uterus is enlarged and softened; the os is patulous. This condition does not occur in nulliparous women, and, therefore, it must have some connection with the child-bearing process. The diagnosis is only justified when all other possible causes for uterine hæmorrhage have been excluded. This cannot be too strongly urged, especially in reference to carcinoma. The terms apoplexia uteri, senile endometritis, and preclimacteric bleeding as applied to these cases are incorrect and unscientific.

While curettement, atmocausis, etc., have little effect in these cases, palliative measures should always be tried before adopting hysterectomy. Obliteration of the endometrial cavity by means of destructive atmocausis is the alternative of hysterectomy in these cases. It is, however, harder to perform correctly and more dangerous than hysterectomy, which is the operation of choice. B. M. Anspach (University of Pennsylvania Medical Bulletin, February, 1906).

MIDDLE EAR DISEASE, INTRANASAL SURGERY AND.

The writer considers that the nose plays an important rôle as a causative factor in many cases of otitis media, but by no means in all such cases. The lesion in the nose is usually of an obstructive nature, acting as an obstacle to proper ventilation of the middle ear. In beginning cases of hypertrophic

otitis media a certain amount of improvement in the hearing can be confidently expected by restoring proper ventilation of that cavity through measures addressed to the nose, with the aim of relieving naso-pharyngeal and tubal inflammation; but (a) yet only such cases of the disease call for nasal treatment as show pathological changes in the throat themselves demanding attention apart from the condition of the ear; (b) it is important to determine the true nature of the process in the middle ear, as the sclerotic or so-called hyperplastic form is not influenced at all by such treatment; and (c) adhesive changes and ankyloses cannot be expected to yield, however completely the nasal obstruction is removed. In a word, while suitable cases are capable of being helped, many cases of chronic otitis media, associated with certain nasal obstructions, do not call for and will not be improved by any form of nasal treatment, and all such treatment in these cases is unjustifiable and unwarrantable.

An important result to be secured by treatment is the relief afforded from the repeated attacks of acute rhinitis, which, by their effects on the Eustachian tube, are wont to aggravate the chronic condition. Tinnitus aurium and vertigo are at times benefited by nasal treatment. Because of the importance of treatment to the nose and throat, the author considers that a closer association clinically of otology and rhinology is urgently demanded. T. J. Harris (New York Medical Journal, April 14, 1906).

MOLES, ORIGIN AND STRUCTURE OF.

In those moles which show the typical columns of nævus cells, the cells are epidermal in origin. There is a rarer variety of soft moles which show no typical nævus-cell arrangement, and whose

origin is uncertain, possibly mesoblastic. The majority of cases of nævo-melanoma are nævo-carcinoma. Melanomata do arise in the skin entirely apart from moles. Cohnheim's view of the origin of malignant growths is not borne out by the writer's observations of the histology of nævo-melanoma. The pigment appears to be closely connected with the prime cause, by reason of which moles become malignant, whatever that cause may be. W. S. Fox (*British Journal of Dermatology*, March, 1906).

NEURASTHENIA, TREATMENT OF.

The first and most obvious indication in the treatment of neurasthenia, according to the writer, is the enforcement of rest, preferably away from the patient's relatives and usual home surroundings. Absolute rest may give place after a while to a drive or walking. Light literature may be allowed, or the pursuit of any simple hobby or pastime. The muscular system should be improved by massage and faradism. Much depends on the daily visit of the medical attendant. An antiseptic mouth-wash should be given, and any error in digestion remedied. The bowels must be regularly evacuated, while the diet must be carefully adjusted to the patient's digestive power; at first it may consist of milk-foods, thin soups, fish, fowl, and game. Red meat should be given only once daily, tea should be avoided, all vegetables and fruit should be cooked, bread stale or toasted, fats in abundance, and at least a quart of milk daily. Codliver oil may be added to the daily dietary, beginning with very small doses. Stout, Burgundy, or claret may be used with luncheon. For insomnia, coal-tar products, or even small hypodermics of morphine, may be given. If anæmic, the patient should receive

iron; but it is useless to begin it until the digestion is regulated. If the iron disagrees, some form of manganese may be given. Phenacetin with caffeine for headaches, the Paquelin cautery for special tenderness, bicarbonate lavage for gastric cleansing, and a change of surroundings for a few weeks before resuming work, all serve as adjuncts. A most careful hygiene and regularity of living must follow. A fixed portion of the day should be spent in the open air, while every slight ailment calls for immediate attention, so that the risk of incurring nervous exhaustion may be reduced to a minimum. G. Rankin (*British Medical Journal*, March 3, 1906).

NEURASTHENIA, UTERUS AND OVARY IN.

The author has observed over one hundred cases of chronic and aggravated type of neurasthenia. The associated lesions in cases of this degree, and their frequency, would be as follows: In the ovary, chronic oöphoritis, chiefly microscopic, was found in nearly all; in the uterus, endometritis, usually cervical, was present in the majority of cases, and was seldom accompanied with thickening; a high degree of sclerosis of the vessels of the uterine walls and of those of the endometrium was sometimes discovered in cases of long standing, and the venous enlargements were many; about the vulva, certain hypertrophies were noted in two-thirds of the cases; in the bladder, congestion of the trigone was frequent; in the rectum, catarrh, congestion, and atony were persistent in a large number. In this class of cases pelvic symptoms are prominent and lumbar pain constant, and in almost all of the cases pelvic disorder is coincident, not causative.

Correction of moderate abnormalities of structure and function by prolonged local treatment or by operation lessens pelvic pain very little and better the general condition not at all. Treatment should be directed entirely to the general condition. For dysmenorrhœa, bromides with hydrastinin (and helonin); for the menorrhagia, ergot, styp-ticin; for rectal mucous catarrh, irrigation with astringents and cure of constipation; for bladder irritation, water freely, and urotopin. Besides, training in outdoor life with development of the muscular system, ridding the patient of mental worry or strain, and proper feeding. Operation on pronounced pelvic lesions is warrantable in a few selected cases, such as persistent and exhausting hæmorrhages, large tumors, etc. R. L. Dickinson (Medical Record, March 24, 1906).

PNEUMONIA, PREVENTION AND TREATMENT OF.

With the appearance of the first symptoms of pneumonia, beechwood creasote should be vaporized more or less continuously in the patient's room. At frequent intervals the inhalations should be stopped and the windows opened wide. Draughts must not be tolerated, although perfect ventilation is insisted on. The writer regards creasote as the most useful single agent in the treatment of pneumonia, as a preventive and curative, if given properly and if continued for a sufficient length of time. B. Robinson (Medical Record, April 7, 1906).

PHLEBITIS AND THROMBOSIS.

In his first two Hunterian lectures, the author discusses phlebitis and thrombosis as follows: First as regards clotting. Healthy blood contained in

normal vessels consists of a fluid (plasma) which holds in solution a proteid material (fibrinogen); in this fluid are suspended the red corpuscles, the various colorless corpuscles, and the blood-platelets; if the normal relations between the blood and the vessels are disturbed, coagulation may occur; and this involves the appearance in the blood (probably from changes in the colorless corpuscles and platelets) of a nucleoproteid which, with a soluble salt of calcium, forms fibrin ferment, and this, acting upon the fibrinogen of the plasma, leads to the formation of fibrin, which, with the entangled corpuscles, forms the clot. The blood-platelets are now held to be independent elements of the blood, and to have an important influence in the process of coagulation.

The first stage in the formation of a thrombus is the accumulation and viscous change of the blood-platelets, which adhere to each other and to the wall of the containing vessel; to these are soon added numerous leucocytes; fibrin ferment is set free and fibrin appears, entangling the red corpuscles. Retardation of the blood-stream favors the process, while in the powerful current of the larger arteries near the heart small quantities of clot are easily swept away and a thrombus less easily formed. But simple retardation or arrest of the blood-current is not alone sufficient to cause thrombosis. Thrombosis is thus usually due to a combination of conditions. Lesions and degenerations of the vessel-walls, impaired nutrition of the endothelium, retardation of the blood current, changes in the composition of the blood and in the proportion of its formed elements, the invasion of micro-organisms, all may play a part. If a thrombus is formed from stagnant blood the clot is red, and is spoken of as a red

thrombus; if it is formed from blood in motion, it is usually of a gray color—the white thrombus. The softening which occurs at the centre of these thrombi is due to liquefaction of the blood-platelets.

The hyaline thrombus is found chiefly in capillaries and small blood-vessels, and is associated mainly with infective diseases. Arterial thrombosis is met with in connection with wounds, injuries, and degenerations of the arterial walls. It may occur gradually as in aneurisms, or suddenly as a result of embolism or other mechanical obstruction. It is also caused by acute or chronic arteritis, anæmia, and wasting diseases. It has also been observed in connection with various acute diseases, especially influenza, enteric fever, typhus, and pneumonia.

Venous Thrombosis.—The conditions of coagulation in the veins are very much the same as for the arteries, but it is more common in the veins. The most serious conditions are those of septic origin; phlegmasia alba dolens is an example of septic phlebitis extending from the uterine veins through the iliac to the femoral and other veins. Thrombosis is a common occurrence in varicose veins, and is usually the result of an injury. Gouty phlebitis is a well-recognized disease, and the condition is frequently met with in typhoid fever. There is a special liability to thrombosis in chlorosis, depending probably upon the condition of the blood. Peripheral thrombosis is also a well-recognized complication of appendicitis. W. Howard (*Lancet*, March 10, 1906; *New York Medical Journal*, March 31, 1906).

PITYRIASIS ROSEA.

It is the general opinion that the rash in pityriasis rosea is due to consti-

tutional disturbance, and that this disturbance occurs before the appearance of the rash, and that the general symptoms have disappeared before the patient consults a physician. The rash is rosy, blotchy, well distributed over the body; the blotches are slightly elevated, light red, and of about the size of those seen in measles or in the roseola of syphilis. The patient is almost invariably in good general health, itching is sometimes severe, sometimes not present at all. If it is absent, the rash is looked upon as evidence of the eruption being syphilitic, the gravest and most likely error one can commit. The desquamative green-soap treatment seems to give good results. This can be modified by adding 2 per cent. of naphthol to the green soap. Satisfactory results are also obtained by Jamieson's treatment. This consists in a bath, to which two or three teaspoonfuls of Condyl's fluid have been added, after which salicylic acid, three to five parts in petrolatum one hundred parts, is applied freely to the skin. D. W. Montgomery (*Journal of Cutaneous Diseases*, April, 1906).

PUERPERAL ECLAMPSIA, MORPHINE IN TREATMENT OF.

Veit's treatment of puerperal eclampsia by large doses of morphine, as carried out during recent years at the Rotunda Hospital, is described by the writer. Induction of labor is never performed, and forceps are only applied in very exceptional cases and when the head is already on the vulva. Half a grain of morphine is given hypodermically at the outset, and subsequently $\frac{1}{4}$ grain doses are given, if necessary, every two hours, the maximum amount given in twenty-four hours being 2 grains. If possible, large quantities of water are given to the patient to drink; but if this

is not possible, the stomach is washed out with three or four pints of hot water; one-half pint of water is left in the stomach, and to this is added two ounces of castor oil and three or four drops of croton oil. The patient is then placed on her side, a long tube is passed gradually per anum, and the lower part of the intestinal canal is washed out with soapy water until fecal material ceases to be passed through the tube; about a pint of saline solution is left in the intestine. The patient is then covered with warm blankets, and poultices applied about the loins to alleviate the congestion of the kidneys. In order to prevent fluid or foreign bodies entering the trachea, the patient is kept lying on her side, the head is turned to the side. No gag is used because of the effect it would produce in preventing swallowing, and, the digestive function being in abeyance, absolutely no nourishment is given by mouth. The best points in the treatment are the administration of digitalis when the pulse becomes rapid and feeble, of atropine when the respirations become slow and sighing, and, in very serious cases, the use of saline infusions preceded by phlebotomy in cases of plethora.

The author lays special stress upon the importance of washing out the intestinal canal as thoroughly as possible, in order to increase the elimination of toxins by the intestinal tract during the temporary suspension of the filter action of the kidneys. Another point of importance is that the treatment should be begun, if possible, at an early stage of the disease, most of the deaths which occurred at the Rotunda in recent years having been those of patients who came into the hospital in a moribund condition.

Since the introduction of the treat-

ment above described the mortality of eclampsia in the Rotunda Hospital has been reduced from 35.3 per cent. to 16.9 per cent., or a reduction of 50 per cent. De la Harpe (*Journal of Obstetrics and Gynecology of the British Empire*, February, 1906).

PULMONARY COMPLICATIONS AFTER ABDOMINAL OPERATIONS.

The results of an analysis of 3909 abdominal operations, including those for strangulated and reducible herniæ, practiced in Korte's clinic, are published by the writer, and he points out what he concludes to be the most likely causes of postoperative pneumonia in this class of cases. Notwithstanding the protection afforded by modern aseptic methods against peritoneal infection, this pulmonary complication occurs, it is stated, more frequently after laparotomy than after any other major operation. Pneumonia followed in 135 of the collected cases, and presented in 10 instances the croupous or lobar, in 96 the lobular, and in the remaining 27 the hypostatic form. Other complications, such as pulmonary embolism and abscess, bronchitis, pleurisy, and empyema, occurred in 147 other cases.

In his study of the causes of pneumonia in abdominal surgery, the author finds that the occurrence of this complication is not influenced in any way by the condition of the wound. Of 10 cases of the croupous and distinctly septic form of pneumonia, 8, with regard to the seat of operation, were aseptic, and 2 only were septic.

Careful study of the collected cases of postoperative pneumonia has led to the rejection of the views that this complication may be due to infection by way of the lymphatics, and to such causes as exposure to cold of the sur-

face of the body or of the peritoneal cavity, to abdominal irrigation, and to direct action of a general anæsthetic. The lobular form, or broncho-pneumonia, which is most frequently met with after laparotomy, is regarded as being usually the result of autoinfection due to aspiration, whilst the patient is under the full influence of an anæsthetic, of secretions from the mouth and pharynx.

It is pointed out that the interference with free breathing and expectoration, resulting from pain at the seat of operation and impeded movements of the incised abdominal wall, must favor very much the development of lung-disease after laparotomy, whilst the resistance to the inflammatory attack is in many cases much impaired in consequence of the enfeebled condition of the patient.

In concluding, the author recommends, as suitable prophylactic measures, thorough cleansing of the mouth and throat and irrigation of the stomach before the operation; a cautious administration of the anæsthetic, the patient's face being turned to one side to permit a free external flow of oral secretion; prevention of chilling of the surface of the abdomen during and after the operation; the application of thick and warm compresses to the wound, and avoidance of tight bandaging; frequent change of the patient's position in bed during the after-treatment; and as speedy a release from the recumbent posture as the state of the wound will allow. Bibergeil (*Archiv für klinische Chirurgie*, Bd. lxxviii, Heft 2; *British Medical Journal*, March 17, 1906).

RETINA AND CIRCULATORY SYSTEM.

With the ophthalmoscope many a commencing general vascular degeneration can be detected in its incipency

by noting the alterations in the retina and in the retinal circulation. A man, apparently in good health, exhibiting no symptoms of disease apart from a slight defect in vision, may be the subject of vascular changes of the most serious character. The author advises that the internist familiarize himself with the use of the ophthalmoscope and the normal appearance of the background of the eye. Negative evidence is often quite as valuable as positive. When no signs of capillary alterations are to be found in the retinal arteries, nor changes in the retina itself, the probability is that there are no advancing changes going on in the vessels elsewhere. When structural changes in the retina are found, it is positive evidence that these are only a part of a fibrosis more or less extensive in the arteries and capillaries throughout the whole system. The retinal vessels possess no anastomoses, but are terminal vessels, and for this reason the region which depends for its nutrition on these vessels is liable to show alterations in structure that are a reflection of widespread vascular degeneration. T. A. Woodruff (*Medicine*, March, 1906).

RHEUMATISM, NATURE AND TREATMENT OF.

The various theories which are extant regarding the nature of the rheumatic poison are reviewed by the writer, and he considers that there are many painful conditions regarded by profession and laity alike as rheumatism, but which in reality have nothing whatever to do with this affection. His own experience has led him to believe that the disease is invariably associated with some stomach disorders of the hyperacid or fermentative type. He concludes that the stomach condition is either the

primary factor, or at least an antecedent feature, preparing the way for the invasion of some specific organism. He discusses the common type of dyspepsia and the function of the stomach, and notes, among other facts, that a large part of the ingested sugar undergoes fermentation in the stomach (before it reaches the bowel) by being acted on by the various organisms in that viscus, and that lactic acid is one of these products. Hence, we have a fruitful source for this compound, without taking the muscles into the reckoning. The foregoing fermentative processes do not occur in every person. The rheumatic diathesis is probably associated with deficient power in the assimilation of carbohydrates. As to treatment, the writer notes that salicylic acid is a powerful agent in preventing fermentation of all kinds, including lactic acid. But the matter of primary importance is the regulation of the diet. For a time, at least, there should be an absolute exclusion of sugar and potatoes, limitation of bread, particularly of toast. If fermentation still exists, the administration for a few days of dilute nitric acid in twenty-drop doses, well diluted, before meals; or if constipation be present, rhubarb and soda after meals is indicated. Some one of the salicylic acid series internally, such as sodium salicylate, etc., in physiological doses, should be given; and, finally, the administration of counter-irritants and electricity, either static sparks or high-frequency currents. When the patient has been a sufferer for a long time, complete recovery is somewhat delayed, as there is undoubtedly some more or less chronic inflammatory tissue which is slow to resolve. W. E. Deeks (*New York Medical Journal*, March 3, 1906).

SILVER NITRATE, INFLUENCE OF, ON GASTRIC JUICE AND MOTOR FUNCTIONS.

The conclusions of the writer's numerous experiments and clinical experiences are that silver nitrate has the property of increasing the secretion of hydrochloric acid and, hence, the total acidity of the gastric juice. The use of the drug is consequently contraindicated in cases of pre-existing hyperacidity. It is indicated, for the same reason, in cases of deficient or lacking secretion of hydrochloric acid, as in mucous gastric catarrh. The silver nitrate also aids in the digestion of albumin. The drug has further an antitarrhal and an antifermentative action, so that it might be used to advantage in cases of abnormal fermentation. Experience to date has further demonstrated that the silver nitrate promotes the emptying of the stomach. In cases of relaxed stomach musculature this property might be utilized. The various effects of the administration of silver nitrate mentioned above were observed with small doses (0.002 grams three times a day), as well as with large amounts (0.03 grams three times a day). A. A. Baibakoff (*Archiv für Verdauungs-Frankheiten*, Bd. xii., Nu. 1; *Journal of the American Medical Association*, April 14, 1906).

SKIN ERUPTIONS PRODUCED BY BROMIDES AND IODIDES.

The writer observes that there are many forms of cutaneous eruptions produced by the bromides and iodides when taken internally. The severe cases resulting from iodides usually occur in those who suffer with kidney disease, with or without heart disease, and with whom elimination is defective. The severe bromide eruptions are usually in

young children or infants. Both the bromide and the iodide eruptions may follow small doses of the drugs administered for brief periods, and they may get worse after the drugs have been omitted. The limitation of the eruption to exposed areas of the body in iodide eruptions suggests that the exposure has something to do with the eruption. Three possible causative factors are diminished resistance or increased susceptibility of the skin to iodine, parasitic micro-organisms, and the chemical irritation of light rays. A. Hall (Edinburgh Medical Journal, March, 1906).

SPHENOID SINUS, TREATMENT OF DISEASES OF THE.

Acute uncomplicated empyema of the sphenoid sinus is amenable to conservative treatment, provided that the ostium is accessible through the nose.

Acute multiple sinusitis involving the sphenoid is amenable to conservative treatment, provided drainage is not blocked by anatomical deformities or diseased conditions. Anatomical deformities may render surgical procedures necessary, to gain access to the ostium.

Acute or chronic pyosinus of the sphenoid can be cured only by removal of its cause, i. e., by treatment of the disease of the ethmoids.

Simple chronic empyema of the sphenoid sinus alone, when unaccompanied by serious tissue change in the interior of the sinus, is amenable to conservative treatment.

Chronic empyema of the sphenoid sinus, when, however, it occurs as a *complication of disease of other sinuses*, as it frequently does, or when accompanied by tissue changes in its interior, can be cured by radical procedures involving

not only the destruction and removal of all of the tissues diseased, but also the removal of all other tissue that may be a hindrance to drainage and to after-treatment.

The tendency of the anterior wall of the sphenoid sinus to reform is a sufficient warrant for as complete a removal of it as possible.

The location of important vessels in the region of the sphenoid is a strong argument in favor of the maxillary route when the antrum is involved, for this route gives double access to the sphenoid sinus and thus the more readily permits of proper instrumentation. T. Passmore Berens (Manhattan Eye, Ear and Throat Hospital Reports, March, 1906).

SPINAL DISEASE, SYMPTOMS OF.

Attention is particularly directed by the writer to the early symptoms of spinal disease, in order that suffering may be earlier relieved and deformity avoided. [The general or more common symptoms, and then such symptoms as rigidity, gait, pain, paralysis, abscess, etc., are considered.] The symptoms differ when different regions of the spine are involved. For instance, in the cervical region the first symptom noticed may be pain in the head, and, according to Whitman, earache may be a symptom of cervical disease. Before there is any sign of deformity the patient may complain of difficulty in swallowing, and even in breathing. In the cervical region there may be, and often is, the grunting respiration. Such general symptoms as weakness, loss of appetite, loss of weight, rigidity, and general change of gait in walking are apparent in disease of all parts of the spine. The writer has seen a number of cases of Pott's disease develop in patients over

forty years of age, and in two cases the development took place after fifty. Weakness may show itself in a general drooping of the trunk, in an unsteady and stumbling gait, and in exhaustion, requiring rest after the slightest exertion. S. C. Baldwin (St. Louis Medical Review, February 24, 1906).

SUGAR, THE INFLUENCE OF, ON WORK.

The writer brings forward experimental evidence to show that there is no paradox in the statement that sugar may be a condiment rather than a food. Most observers who have examined the effect of the ingestion of sugar on the power of doing work, but not all, have come to the conclusion that sugar directly increases this power. Quoting elaborate experiments done on himself with a Mosso's ergograph, the writer points out that the sensory effect of the sugar's sweetness has been overlooked; he finds that sugar diminishes the power of working excepting for the short initial period during which the sensory stimulus of its sweetness lasts, and, like any other sensory stimulus, increases the power of doing work. Hence, sugar, like kola, coca, or alcohol, diminishes the amount of work that can be done in an hour or in a day, but increases the force of a single shorter effort; sugar is a stimulant, and, like anything else that excites, accelerates the onset of fatigue. Ch. Fere (Rev. de Med., Paris, January, 1906; British Medical Journal, March 31, 1906).

SURGICAL TUBERCULOSIS, NECESSITY FOR AFTER-TREATMENT OF.

The writer cites a number of instances from his own experience in which patients, apparently healthy for a few years after operative treatment of some local tuberculous lesion, later de-

veloped pulmonary phthisis. The persistence of a latent focus, after what was supposed to be radical extermination of the tuberculous process, would have been revealed in these cases if tuberculin had been injected after the operative wound had healed. The author consequently advocates testing with tuberculin, as a routine measure, after the healing of any surgical or gynæcologic tuberculous process treated by conservative or operative measures. The tuberculin test will show either that the patient is free from tuberculosis, in which case he can be dismissed from further treatment, or that some latent focus still persists, in which case the local reaction will frequently point to the site of the lesion. Persons in this latter category should be given appropriate treatment until their entire freedom from tuberculosis can be definitely established. By these means it will be possible to save these individuals from a revival of their tuberculous affection by propagation of metastasis, and also to protect other persons from contamination by their infectious secretions, and unborn children from inherited infection. It should be accepted as a principle that every individual with a latent tuberculous focus is to be regarded as already a candidate for consumption, and treated accordingly. C. Kraemer (Deutsche Zeitschrift f. Chirurgie, Bd. lxxix., Nos. 4-6; Journal of the American Medical Association, March 24, 1906).

SYPHILIS, ELECTRIC LIGHT IN THE TREATMENT OF.

Comparing the results of the cases of syphilis reported, also other cases which the writer has treated by light, or drugs and light, with those treated by drugs alone, he concludes that the

cutaneous symptoms disappear more rapidly by the application of the combined arc and incandescent light baths, and that the traces on the tissue are less marked where light is used. Albuminuria and affections of the joints met with in the secondary stage are removed quicker by the incandescent light bath. The enlarged glands diminish in size more rapidly under light, and the pain of enlarged inguinal glands is very much relieved by the use of the glass vacuum electrode.

Although the patients who receive light seem to improve under smaller doses of mercury, they can take larger doses of the drug without being salivated, and an already induced salivation is rapidly removed by from one to three incandescent light baths. The general health of the patient is much better when he is given radiant baths than when given Turkish or hot tub-baths for eliminative purposes.

Although blood-counts were not made, it was observed that the patients looked less anæmic when the arc-light bath was given. The effects of mercurial inunctions given immediately after a radiant bath, and mercurial fumigation given while the patient is in the electric light cabinet, are decidedly greater than when given in any other manner. H. Finkelpearl (*Journal of Advanced Therapeutics*, April, 1906).

SYPHILIS, INTRAVENOUS INJECTIONS OF POTASSIUM IODIDE IN.

The writer recommends the intravenous injection of potassium iodide in fulminating cases of syphilis, or when circumstances forbid the use of mercury and rapid action is necessary. He describes four cases in which the rapid benefit was strikingly apparent, this prompt effect being the special advan-

tage of the intravenous route. Very small doses prove effectual. He used .1 gram potassium iodide, giving it in the form of 2 grams of a 5 per cent. solution. The injection did not seem to affect the circulation, respiration, or temperature, and caused merely slight pain at the point of injection, generally quite transient. In the severe cases of cerebral syphilis the injections were repeated every day for six days. W. Doeverspeck (*Therapie der Gegenwart*, Bd. xlvii., Nu. 12; *Journal of the American Medical Association*, March 3, 1906).

TUBERCULOSIS, MIXED INFECTION IN.

The results of various investigations show that streptococci are found in lung tissue beyond the areas of necrosis, and can be present without causing any acute symptoms, such as high fever, chills, etc. The products of the tubercle bacillus are capable of producing symptoms very near to, if not identical with, those of so-called mixed infection, and it is possible that these are sometimes due to the one cause, sometimes to the other, and perhaps at times to both working together.

The streptococcus plays a part, at least, in some cases of so-called mixed infection in tuberculosis, and streptolytic serum has at least some specific action on the streptococcus, as witnessed in the reduction of fever and abatement of symptoms in some of these cases of hepatic type; and, further, the streptococcus plays some part in the general pathology of the tuberculous process of those chronic cases without marked symptoms (the earlier ones have not yet been investigated by the authors), as is shown by the altered character of the sputum, becoming thinner, less purulent, and diminished in amount, and in the general improve-

ment which follows the administration of the serum in nearly all cases.

The use of streptolytic serum in cases where no acute symptoms were present seemed to exert a favorable influence on the course of the disease sufficiently often to suggest that the presence of the streptococcus affects the tuberculous process unfavorably, even in many cases where it causes no active symptoms; and mixed infection is a factor to be recognized and dealt with, before the advent of threatening symptoms, the same as tuberculosis is to be diagnosed and treated before the advent of consumption. F. M. Pottenger (*Journal of the American Medical Association*, March 24, 1906).

TUBERCULOSIS, PSYCHOLOGY OF.

The question of the psychology of the tuberculous has been studied by the author, who noted that there are presumably two principal morbid processes at work in the determination of the psychological peculiarities noted in this condition: (1) changes in mental temperament, presumably due to the action on the nervous system of the toxins of the tubercle bacillus; and (2) modifications in character due to mechanical interference with the cerebral function, secondary to the deposits of tubercle within or upon the brain. Such deposits may cause cerebral impairment, and even epilepsy or melancholia.

The characteristic features of the general psychology of this class of patients are instability, feverish activity alternating with intense depression, phases of despair with intervening elaboration of plans for the future, hypochondria—from which the patient may seek relief in intense application to his work or by reckless indulgence in sexual pleasures. There is a tendency to

sentimentality and generalization, that is, in general, a marked intensification of cerebral function, the manifestations in a given case varying according to the temperamental peculiarities of the individual patient. The author notes that the reproductive functions are peculiarly active, while the fertility of tuberculous couples is almost proverbial. The feverish activity of such people is often regarded as the cause, while in reality it is the result of the disease. All these features are notable in cases with a short, acute terminal period. Up to a certain point the exaggerated metabolism appears to supply the necessary amount of nervous energy until the final breakdown comes on and the weakened system succumbs to the tuberculous invasion. Two interesting clinical histories are given by the author, both in the same family; in both an initial local pulmonary lesion was followed by a marked deterioration in the moral status. Post-mortem examination in one revealed old tuberculous meningitis and fresh tubercles at the base, the initial lesion having been a tuberculous pleurisy with invasion of the adjacent lung. A. S. Grubb (*Lancet*, March 3, 1906).

TUBERCULOSIS, OPEN-AIR TREATMENT OF.

In making patients take the open-air treatment, there are certain points upon which stress should be laid. One is that the more nearly the treatment is kept for the entire twenty-four hours the better. It is not sufficient that the patient should spend the day in the open air, but the windows should be open all night. There are various forms of shelter, but the best, other things being equal, is the simplest. The only necessity is that it shall keep out the

wet. Another point is that cold weather is no hindrance to staying out, provided there is plenty of covering over the body, so that it does not feel chilled at any time. Plenty of woolen should be worn next to the body. Old-fashioned felt shoes make the best covering for the feet. At night the bed should be made up with a heavy blanket over the mattress. A blanket may be laid loosely between the sheets, so that the body may be rolled in it.

As to diet, the writer does not believe in "stuffing" patients. Health is no more promoted, often, by forced than by moderate feeding, while the latter avoids the dangers of overloading the digestive powers. The giving of eggs, the author considers, has been overdone. Exercise must be carefully regulated. It is still a mooted question whether pulmonary gymnastics shall be advised or not. Doubtless, where there is rapidly advancing disease, it is not well to prescribe deep breathing, especially if there is a pleurisy. Indeed, nature gives us the cue in many cases, and by pain limits the respiration. In other cases, however, there can be no objection to moderately deep breathing, for by it the air of the lungs is better aerated, and certainly diseased tissue cannot be gotten rid of in the presence of poor blood. It has been recently proven, also, that the secretion of the bronchial tubes is gotten rid of not so much by the action of the ciliated epithelium, as by the pumplike action of the bronchial muscles. W. A. Griffin (Boston Medical and Surgical Journal, March 15, 1906).

TUBERCULOUS DISEASE, RELATION OF THE MESENTERIC GLANDS TO.

In 1903 von Behring maintained that the majority of cases of pulmonary tu-

berculosis were due to an infection which was acquired in infancy from food and remained latent up to the time of the development of symptoms. While this statement is probably not true of the majority of cases, it may be true of some. In this relation the recent study by Rosenberger (Proceedings of the Pathological Society of Philadelphia, N. S., viii., 5, 1905) of the mesenteric glands in seventy necropsies is of interest. The study was made with the object of determining the incidence of tuberculous disease of these glands in cases of the same disease elsewhere in the body, and in cases in which gross tuberculous lesions could not be determined in the various organs of the body. The glands were scraped, and smears made from the scrapings were stained for tubercle bacilli. Fragments of the glands, after being macerated in bouillon, were inoculated into guinea pigs. In forty-nine of the cases tuberculous foci were found somewhere in the body, and in the twenty-one other cases no gross tuberculous lesions could be detected. As a result of the study of these structures by these methods, the investigator concludes that in all cases of active and in almost all cases of inactive tuberculous disease the mesenteric glands are capable of infecting guinea pigs; that the mesenteric glands in these cases may or may not show gross evidence of tuberculous disease or tubercle bacilli in spreads, the result of such a search not being distinctive so far as the production of the disease is concerned; that the mesenteric glands in a certain percentage of cases that show no tuberculous lesions in any part of the body produce the disease when inoculated (in the present study the percentage was about 40); and that the tuberculous infectivity of the mesen-

teric glands is probably shared by the other groups of lymph nodes throughout the body. Editorial (New York Medical Journal, March 31, 1906).

TUBERCULOUS, NITROGENOUS CHANGES IN THE.

The study of the nitrogenous changes in the tuberculous, including that which goes into the body and that which goes out, enables one to determine the metabolic factors in such cases. At the second and third periods of the disease the nonutilized nitrogen is more abundant than in the normal condition, even when the food ingested is less in quantity. This statement is susceptible to variation, hence in a given case the digestive capacity and the power of assimilation must be regarded, rather than the weight of the individual. In the authors' cases the nitrogen in the urine remained constant, though varying in different individuals. It is necessary to find this factor and determine therefrom the quantity of nitrogenous food which the patient can assimilate. The balance of metabolized nitrogen has been established by combining the nitrogen in the fæces and the excretion at a time when the nitrogen of the food ingested was small in volume. Sugar in doses of one hundred grams daily increased the assimilation of nitrogen and increased the nitrogen in the urine. Labbé and Vitry (*Revue de Médecine*, February, 1906; *New York Medical Journal*, March 31, 1906).

TYPHOID FEVER, DIET IN.

The writer's treatment of a case of typhoid fever, no matter on what day of the disease it may come under his care, is as follows: The regulation six ounces of milk are given every two

hours, night and day, while the patient is awake. In place of milk, in order to vary the monotony for those who can take milk, and as a substitute for those who cannot, animal broths are given. After the subsidence of the more acute symptoms, if the patient is hungry, a soft-boiled or poached egg is allowed, and if well borne the number is gradually increased to three or more a day. Jelly or blanc mange, custard, soft toast, the soft part of baked apple, and rice which has been boiled four hours, are the next additions. After this scraped beef or chop, very finely divided chicken, and baked potato are tried. The author does not advocate so full a diet in every case, for each patient must be carefully studied as individual. He believes that most of the foods mentioned are quite as digestible, far more palatable, and rather less likely to cause perforation or hæmorrhage by their local action, or gas production, than milk. T. A. Claytor (*Medical Record*, March 17, 1906).

TYPHOID FEVER, PROGNOSIS OF.

The prognosis of typhoid in relation to certain special factors, namely, the rate of the pulse, the agglutinative power of the serum, and the blood-pressure, are discussed by the authors. They find that a slow pulse and a high agglutinative power existing contemporaneously are of favorable import, whilst the reverse of this (a quick pulse and low agglutinative power) is serious. The two factors, to have any significance, must exist together. A quick pulse with high agglutinative power may coincide with or indicate a bad attack. The two factors are independent. The blood-pressure is, as a rule, only slightly elevated. In man it seems probable that the cardiac inhibitory centers

are specially sensitive to the typhoid toxins, hence the slow pulse and the occasional presence of bradycardia in favorable cases of typhoid. In severe cases the normal sensitiveness of the vagus is more or less lost, hence the quickened pulse, cardiac failure, and lowered blood-pressure. Curlo and Loggia (*Gazzetta degli Ospedali*, February 4, 1906; *British Medical Journal*, April 7, 1906).

TYPHOID FEVER, SALINE BEVERAGES IN, AND THEIR EFFECTS ON HEAT-DISSIPATION.

The author contributes eight cases to emphasize the fact, first pointed out by Sajous in 1903, that the use of saline beverages from the onset of the disease tends greatly to reduce the severity of the case. It augments the elimination of bacteria and toxins, preserves the molecular constituents of the blood, and aids materially in reducing the temperature and promotes heat-dissipation. The saline beverages preserve the germicidal powers of the blood by acting upon the albuminates of the serum or by increasing the alkalinity of the blood. The lymphatic system should receive the earliest attention in this disease, as upon its phagocytic activity depends the result. If a proper amount of fluids and alkaline salts are provided in the earliest stage of typhoid fever, their effects are helpful, and if they are withheld the effects of the protective forces of the body are hampered and the chances for an unfavorable issue in the case are increased. In giving the saline beverages ten grains of sodium chloride and five grains of potassium bicarbonate are added to eight ounces of water; a teaspoonful of lemon juice is added, which produces a mild efferves-

cence and which renders the drink very palatable. J. B. Todd (*Medical Record*, April 14, 1906).

URINARY BLADDER, TUMORS OF THE.

From a clinical and histological study of tumors of the bladder, the author concludes that stone in the bladder is not an etiological factor of importance in the causation of these tumors. The condition of the underlying bladder-wall, in regard to epithelial infiltration, is the most satisfactory and reliable guide in the determination of the benign or malignant character of papillary epithelial tumors of the bladder. If the foregoing condition is accepted as the differential test of these growths, then will the benign forms, commonly called papillomata, be found to at least equal if not outnumber the malignant, the papillary carcinomata.

Recurrent epithelial tumors are not necessarily malignant. Papillary tumors of the bladder, proved to be histologically benign, may rapidly lead to a fatal result if let alone.

Surgical intervention at the proper time, in the case of pedunculated papillary tumors of the bladder, offers a very fair chance of long immunity, if not of permanent cure. The method of surgical intervention to be preferred in these cases is excision of the tumors in toto, with a margin of bladder-wall at its base, including mucosa, submucosa, and muscularis in part; the section need not penetrate the entire thickness of the wall. In this way, a beginning epithelial infiltration of the base, if present, may be circumvented; or if it is not present, the knowledge of the fact is of great value in the important matters of diagnosis and prognosis.

The defect in the bladder-wall should be closed with sutures, which will at the same time control hæmorrhage. The gravity of the operation is not appreciably increased by this procedure. Lincoln Davis (*Annals of Surgery*, April, 1906).

UTERINE MYOMATA, HISTOLOGICAL CHANGES IN.

In uterine myomata there is always a certain amount of elastic tissue, either in normal amounts and relations in the blood-vessel walls, or sometimes in the tumor tissue, where it is distributed among the bundles of muscle along with fibrous tissue of such septa and muscular investments. Vascular changes of the type of fibrous and elastica hyperplasias are common in such tumors, leading to the thickening of their coats and eventual obliteration of the vessels, and increasing the connective-tissue framework of the tumor in the vicinity of the affected vessels. Probably as a result of nutritive disturbances brought about by such vascular changes, this excess of elastica in the surrounding tissues does not maintain an integral condition, but deteriorates and eventually disappears.

Probably dependent upon the same nutritive disturbance, the original muscular elements of the tumor also atrophy, degenerate, and necrose, and finally disappear as muscle-spindles, although there is some evidence that the cell-wall (corresponding to the sarcolemma of the striated type of muscle) may remain and contribute in a passive manner to the fibrillar material of the final fibroid tissue. The character of the tissue and the relative paucity of fibre-forming young elements is consistent with the

idea that the fibrillar tissue of the final uterine fibroid is in a large part not true fibrous connective tissue, and that the general process of transformation is not a progressive but a retrogressive one. E. S. Allen (*University of Pennsylvania Medical Bulletin*, March, 1906).

VOMITING OF PREGNANCY.

The pernicious vomiting of pregnancy is not due to a single etiological factor, and occurs as one of three varieties, reflex, neurotic, and toxæmic. The reflex type is dependent upon the existence of abnormalities of the generative tract or ovum, and may be cured by their correction or removal. The neurotic type is dependent upon the existence of a neurosis without demonstrable lesions, and is more or less allied to hysteria. It is the most frequent variety of serious vomiting and can be cured by suggestion or a modified rest cure. The toxæmic type is associated with characteristic changes in metabolism, and in fatal cases, at least, with lesions in the liver analogous to those observed in acute yellow atrophy. It may occur in an acute or chronic form, the former causing death in ten days or less, while the latter may persist for weeks or even months.

In reflex and neurotic vomiting there are no manifest changes in the urine, while the toxæmic variety is characterized by a marked decrease in the amount of nitrogen excreted as urea and a characteristic increase in the amount excreted as ammonia, the so-called ammonia coefficient rising from 3 to 5 per cent. to as high as 46 per cent. in one of the author's cases. The toxæmic type is diagnosed by the examination of the urine, the reflex by careful bimanual

examination of the genitalia, and the neurotic after the exclusion of the other two varieties.

The prognosis is excellent in reflex and neurotic vomiting, provided appropriate treatment is instituted, so that the termination of pregnancy is rarely indicated. In toxæmic vomiting, on the other hand, a fatal issue can be averted only by the prompt induction of abortion, and even then the prognosis is dubious. J. Whitridge Williams (*Bulletin of the Johns Hopkins Hospital*, March, 1906).

WHITLOW AND ITS TREATMENT.

The author mentions, as the varieties of whitlow, the subcuticular, subcutaneous, thecal abscess, and subperiosteal abscess. The cause of all is generally a streptococcus. If the infection is beneath the skin, the tendency for the inflammation to spread is greater than if the inflammation begins superficial to the cutis vera. In the subcuticular variety, deep incision should be avoided for fear of introducing the infection beneath the skin. The finger should be immersed in a hot solution, so as to soften the cuticle as much as possible, and with the scalpel held flat, the cuticle shaved off until the inflammation focus is opened and the drop of pus evacuated.

The next variety is the commonest of all, the subcutaneous, and the treatment is early incision through the top of the finger, through the fibrofatty pad, sufficiently deep to expose or incise the whole thickness of this pad, but not so deep as to run any risk either of incising periosteum of the bone or of

opening the tendon-sheath, which ends over the front aspect of the terminal phalanx of the finger. With these two reservations, a free incision, which can be done without giving an anæsthetic, should be made in the middle line, directly through the fibrofatty pad of the finger.

In the thecal abscess, the area should be made bloodless by an Esmarch bandage under general anæsthesia, the skin and subcutaneous tissues incised, and then, if necessary, the tendon-sheath opened. If in doubt, the sheath should be tapped with a needle, and if the fluid is turbid, the theca opened. The incision should traverse the site of infection, and a second incision should be made at the other end of the tendon-sheath. The latter should never be laid open from end to end, for then the tendons stand out from the finger and invariably slough.

The treatment of the fourth or subperiosteal variety of whitlow is comparatively simple. It consists in making an incision through the fibrofatty pad at the top of the finger down to the bone. Care should be taken not to cut so high as to endanger opening the tendon-sheath. This incision gives free drainage; about a month later one is able to remove so much of the ungual phalanx as has necrosed. With few exceptions the base of the bone, with the attachments of the flexor and extensor tendon, survives and the wound heals without further trouble. Lead and spirit lotion (5ss of each to 1 ounce of water) is the best application for all forms of terminal whitlow. The after-treatment of all forms consists in manipulation and massage. G. B. Mower White (*British Medical Journal*, February 24, 1906).

Book Reviews.

THE MEDICAL DISEASES OF INFANCY AND CHILDHOOD. By Alfred Cleveland Cotton, A.M., M.D. Philadelphia and London: J. B. Lippincott Co., 1906.

Dr. Cotton's work in the line of pediatrics is so well known by his various writings, his emphatic preachings, his fearless expressions of convictions, and his well-known book on "Lessons in Anatomy, Physiology, etc., of Infancy and Childhood," that nothing he may put forth can fail to be of value. A considerable number of text-books, hand-books, etc., on diseases of children have appeared within the last year or two, but this is an exceptionally good one. A large proportion of the text is devoted to his specialty, as one might call it, the anatomy, physiology and hygiene of the developing child. He has had the assistance of a number of specialists in various departments, all, or most of them, well-known men. The illustrations are numerous and excellent, and although not stated on the title-page, number over 200. There is nothing particularly novel in the method of arrangement, and indeed it is difficult to see how novelty can here safely be employed. There are some expensive colored plates, which are of value, notably one on the eye grounds in amaurotic family idiocy. He has borrowed some colored plates from Symington, and these, with a number of others, assist materially in making important matters clear.—J. M. T.

DIAGNOSIS OF INTERNAL MEDICINE. By Glentworth Reeve Butler, M.D. Second Edition, Revised. D. Appleton & Co.

This second edition of Dr. Butler's book happily has not grown larger, as is the case with the later editions of some other works on diagnosis. While there is much to be said upon so important a subject, it would seem that overgrowth is a fault rather than a virtue in a handbook. The main features of the book have been commented upon in the reviews of the first edition, but it is proper again to refer to the value of a large proportion of the work, which is a schedule of examination, an order of procedure, and a symptom-guide. With reference to other parts of the book, the succinctness of the wording compels the omission of many modifying and explanatory phrases which might prove of value, but enables one to acquire a comprehensive survey of the problem for which it is consulted. The most graphic feature consists in the numerous artistic illustrations, which are excellent, some photographic and some diagrammatic, but all carefully prepared. In this second edition changes have been made at the suggestion of correspondents, some of whom are mentioned in the preface, and the author expresses gratitude to Dr. Smith Ely Jelliffe for valued addition to the section on diseases of the nervous system, to Dr. William A. White for the preparation of a new section on the diseases of the mind, and to Dr. Paul M. Pilcher on medical X-ray diagnosis. Altogether, it is a most useful volume.—J. M. T.

CLINICAL METHODS. By Robert Hutchinson, Assistant Physician of the London Hospital, and Harry Rainy, Examiner in Medicine at St. Andrews Hospital. With Upwards of 150 Illustrations and Nine Colored Plates. Ninth Edition. \$2.50 net. Chicago: W. T. Keener & Co., 1905.

Hutchinson and Rainy is a well-known book which has passed through many editions and is always welcomed. It is delightfully convenient in shape and size, and is preëminently a handy book. Although not meant to be literally carried in the pocket, few books so designed can be so well thus treated; nevertheless, it should be looked into frequently, and from it much would be learned.—J. M. T.

NURSING IN THE ACUTE INFECTIOUS FEVERS. By Dr. George P. Paul. Illustrated. Cloth, \$1.00 net. Philadelphia and London: W. B. Saunders & Co., 1906.

It is eminently proper that a physician experienced in treating the infectious fevers should write a book for nurses, giving directions how such cases should be managed. In the

preface it is stated that he has had the assistance of a most capable nurse-superintendent, Miss Munro, which adds to its value. The arrangement of the book is systematic and thorough; first, general considerations, hygiene of the sick room, diet, etc.; and last, a series of chapters, each dealing with one special disease, with a copious addendum containing chapters on anti-toxin, bacteria, urinalogy, and special applications. Such books are needed by the nurse, and indeed are equally needed by and useful to the general practitioner, who frequently has less knowledge of this department than he should, especially such physicians as have not had the opportunity of hospital experience.—J. M. T.

A TEXT-BOOK OF CLINICAL DIAGNOSIS. By L. Napoleon Boston, A.M., M.D., Associate in Medicine and Director of the Clinical Laboratories at the Medico-Chirurgical College, Philadelphia. Second Edition, Revised and Enlarged. 563 Pages, with 330 Illustrations. \$4.00 net. Philadelphia and London: W. B. Saunders Co.

The second edition of Dr. Boston's text-book is offered within eight months after its original publication, which should be gratifying to both author and publisher. A number of additions are made, especially descriptions of new instruments, etc. The book is already established in the appreciation of clinical laboratory workers. The presswork is unusually good, and it remains of convenient size. It is better and more elaborately illustrated than some books of its class. The index is exceptionally good.—J. M. T.

A TEXT-BOOK OF MATERIA MEDICA, THERAPEUTICS, AND PHARMACOLOGY. Fifth Edition. By George F. Butler, Ph.G., M.D. Thoroughly Revised by Dr. Smith Ely Jelliffe. 694 Pages, Illustrated. \$4.00 net. Philadelphia and London: W. B. Saunders Co., 1906.

The fifth edition of this text-book, revised and rewritten by Professor Jelliffe, presents little more than the original work. As a matter of fact, the editor states that it has been considerably reduced in size by the elimination of much useless material. Also, there has been some change in the grouping of drugs, so that those which act on the same system of organs are placed together, giving their therapeutic as well as pharmacologic alliances. Undoubtedly there is little that is more difficult to construct than a satisfactory arrangement of the contents of a book on therapeutics, but the one under discussion is excellent. A long chapter is given on pharmaceutical preparations. It is well to call the attention of medical men nowadays to the value of a clear understanding of the fundamentals of pharmacy, and especially to prescription-writing. Unless a physician knows what he wants to use and how to use it, he will be perpetually tempted to use something else, which may be of no use to the patient. It would seem, then, that we should be supplied with and use books even more condensed than the present one, which is of large type and, without the index, less than 700 pages, yet complete and clear.—J. M. T.

A REFERENCE HANDBOOK OF THE DISEASES OF CHILDREN. By Prof. Ferdinand Fröhwald, of Vienna, with Additions by Dr. Thompson S. Westcott. 553 Pages, with 176 Illustrations. Price, \$4.50 net. Philadelphia and London: W. B. Saunders Co., 1906.

Dr. Westcott, a well-known and accurate pediatricist, has presented us an edition of Prof. Fröhwald's reference handbook on the diseases of children, which exhibits novel arrangement of diseases, alphabetically, and gives a complete epitome of the subject as taught in Vienna. The author has consulted ten German text-books on the same subject, from which he has freely selected. One of these, though in German, is Prof. Filatow, of Russia. This, then, practically presents German thought on pediatrics, and but little else. Illustrations are introduced of the rarer conditions and also a number of diagrammatic drawings, which certainly assist in presenting principles in a clear and graphic fashion. No index is furnished, because the alphabetic arrangement is regarded as sufficient, and undoubtedly this supplies a convenience not to be found in an orderly arrangement of subjects with index. The book makes a valuable addition to the library of the general practitioner.—J. M. T.

A TEXT-BOOK OF PHYSIOLOGY: for Medical Students and Physicians. By William H. Howell, Ph.D., M.D., LL.D., Professor of Physiology, Johns Hopkins University, Baltimore. Octavo Volume of 905 pages, Fully Illustrated. Cloth, \$4.00 net; Half Morocco, \$5.00 net. Philadelphia and London: W. B. Saunders & Company, 1905.

Besides its scientific excellence, Dr. Howell's work presents a quality too often overlooked by authors of such books, namely: a simple and lucid presentation of facts and theories. The work does not depart much from the ordinary trend of physiological grooves, which, unfortunately, are not fruitful when an effort is made to elucidate any pathological state. As the author states, however: "He who seeks for truth in any matter under discussion is oftentimes forced to be satisfied with a suspension of judgment, and the writer, to formulate our present knowledge upon almost any part of the subject, is, in many instances, obliged to present the literature as it exists and let the reader make his own deduction." This truly illustrates the only position which the condition of physiology at the present time warrants, but Dr. Howell's work shows that he has carefully gone over the literature of the subject and that what deductions are reached by him are poised on a solid foundation. Altogether, Howell's "Physiology" will prove useful to any physician who desires to keep abreast of the collateral branches of medical science.—C. E. de M. S.

Books and Monographs Received.

The Editor begs to acknowledge, with thanks, the receipt of the following books and monographs:—

"The Examination of the Function of the Intestines by Means of the Test-diet. Its Application in Medical Practice, and its Diagnostic and Therapeutic Value." By Prof. Dr. Adolf Schmidt, Dresden. Authorized Translation from the Latest German Edition, by Charles D. Aaron, Detroit, Mich. F. A. Davis Company, 1914-16 Cherry Street, Philadelphia.—"The Operative Treatment of Fractures." By W. Arbuthnot Lane, London. The Medical Publishing Company, Limited, London, 1905.—"Manhattan Eye, Ear, and Throat Hospital Reports," March, 1906.—"Transactions of the American Ophthalmological Society. Forty-first Annual Meeting." Vol. X., Part III. 1905.—"Annual Report of the Surgeon-General of the Public Health and Marine-Hospital Service of the United States for the Fiscal Year 1905."—"Annual Reports of the Department of Agriculture for the Fiscal Year ending June 30, 1905."—"Infantile Indigestion." By A. A. Young, Newark, N. Y., 1906.—"The Radical Operation for Inguinal Hernia." By Joseph Rilus Eastman, Indianapolis, Ind., 1906.—"Report of Forty-five Apparent Cures of Pulmonary Tuberculosis Occurring in Working People who were Treated at a Dispensary without Interruption of their Work. Being an Appeal for Systematic Treatment of Consumptive Working People." By John F. Russell, New York, 1906.—"Cancer of the Uterus." By C. P. Noble, Philadelphia, 1905.—"Extrauterine Pregnancy." By C. P. Noble, Philadelphia, 1905.—"The Treatment of Retrodisplacements of the Uterus." By C. P. Noble, Philadelphia, 1905.—"Uric Acid and Its Elimination, with Clinical Reports of Seven Cases." By Richard Ray, Kansas City, Mo.—"Recent Experiences in Kidney Surgery, and the Utility of Diagnostic Aids." By Charles H. Chetwood, New York, 1905.—"Pneumonia." By W. J. Galbraith, Cananea, Sonora, Mexico, 1906.—"The Essentials for Aseptic Labor." By A. Ernest Gallant, New York, 1903.—"The Gynecologic Bladder." By A. Ernest Gallant, New York, 1905.—"Jaundice in the Newly-born, as Evidence of Umbilical Infection." By A. Ernest Gallant, New York, 1905.—"The Correct Treatment of Syphilitic Cicatricial Adhesion between the Soft Palate and Posterior Wall of the Pharynx." By J. E. Schadle, St. Paul, Minn., 1906.—"Ricerche anatomiche e sperimentali nella Patogenesi della otite media purulenta acuta." By Dott. Domenico Tanturri, Naples, Italy, 1906.—"Contributo alla teoria

meccanica dello stridore laringeo congenito, come entità morbosa a sè." By Dott. Domenico Tanturri, Naples, 1906.—"Alcune considerazioni sulle vegetazioni adenoidi dei poppanti." By Dott. Domenico Tanturri, Naples, 1906.—"Patogenesi dell' Otitis media purulenta acuta nei bambini." By Dott. Domenico Tanturri, Naples, Italy, 1905.—"The Spiritual Attitude Towards Old Age." By Felix Adler, New York, 1906.

The following have been received from the United States Department of Agriculture: "Report of Working Party No. 3, Yellow Fever Institute." January, 1906.—"The Lawn." By L. C. Corbett, 1906.—"Fungi in Cheese Ripening: Camembert and Roquefort." By Charles Thom, 1906.—"Experiment Station Work, XXXIV." 1906.—"Fungicides and Their Use in Preventing Diseases of Fruits." By M. B. Waite, 1906.—"The Prevention of Stirking Smut of Wheat and Loose Smut of Oats." By Walter T. Swingle, 1906.—"The Germination of Seed Corn." By J. W. T. Duvel, 1906.—"House Flies." By L. O. Howard.—"The Plum Curculio." By Fred Johnson and A. A. Girault, 1906.—"Some Insects Affecting the Production of Red Clover Seed." By F. M. Webster.—"The Hessian Fly." By F. M. Webster.—"The Periodical Cicada in 1906." By C. L. Marlatt.

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Editorials.

DEPARTMENT IN CHARGE OF
J. MADISON TAYLOR, A.M., M.D.

THE MEDICAL ASPECT OF APPENDICITIS.

IN complying with the request of the editor for a sketch of my views upon the medical aspects of appendicitis, I recall a paper under such a title by an "up-state" city practitioner of both medicine and surgery, which he had the effrontery a few years ago to present before the New York State Medical Society. A vigorous

surgeon, who opened the discussion, protested emphatically that "there is no *medical* aspect to appendicitis," and among several who followed in the discussion, I believe I was the only one who offered anything consoling to this almost universal target; but we had the last word.

I will not go to the other extreme now, however, and assert that appendicitis has no *surgical* aspect, because it is neither exclusively medical nor surgical. Yet it is a reflection upon and a disgrace to medicine that appendicitis is regarded as still so largely surgical. The usurpation of the province of medicine by the surgeon is undoubtedly due as much to inefficiency of present medical treatment as to real intrusion on the part of the surgeon. In fact, if we avail nothing during the *medical* stage, it is well that we have the surgeon convenient and ready to step forward with radical measures to save the life at stake. We must, therefore, in order to redeem the medical end of it, endeavor to make that stage so successful that the knife will be superfluous.

In submitting a scheme of treatment for appendicitis, I do so with the assurance of one who has never had an appendicitis patient fail of recovery or go to operation, *i.e.*, one in private practice. As an outpatient physician to Bellevue Hospital, I have admitted many such cases to the house, in desperate condition, which I thus lost to another corps of physicians, and perhaps often surgeons. Yet, in even my hospital service, I have never known of a case of this disease to progress worse, after my treatment was once begun.¹

Before describing my very simple treatment for this dread disease, I wish to make some remarks upon the morphology and pathology of the appendix. The appendix may first be described as one of the lymphoid tissue organs, which, like the tonsils, are also rated among the obsolescent organs; in the evolution of man once of functional value, but now vestigial structures, "better excised than in situ." This I regard as one of the most unfortunate dogmas in all the annals of evolution. True it is that lymphoid structures are comparatively weak and low in vitality, yet, because we are ignorant of their functions, we are not warranted in assuming they have none.²

I have heretofore established the fact that protoplasm responds to variations in its oxidation by changes in its density, perfection of oxidation leading to highest density and molecular weight, while suboxidation and deoxidation lead to rarefaction. Lymphoid tissue is the most rarefied and flaccid of the fixed tissues, and hence is the

¹ However startling my statement that I have never had a case of appendicitis go to operation, it does not appear so immoderate when one considers a recent official report of Dr. Chauvel, the medical inspector of the French army, who gives for 1902, out of 668 patients suffering from appendicitis, treated medically and surgically, the following comparative figures: Out of 188 operated upon, 23 died, while of 480 treated by purely medical means only three died. In the French army in Algeria the disease (appendicitis) occurs ten times less frequently among the native troops, which is indicative of the proclivity of European civilization toward metabolic stagnation.

² It should be mentioned here that Sir William Macewen (Lancet, October 8, 1904) has reported investigations which indicated that the appendix is an important intestinal gland, the extirpation of which seriously cripples intestinal digestion.

most poorly oxidated. Inasmuch as it is normally so low in its oxidation standard or equilibrium, and owing to its corresponding looseness of structure, it may be said to be predisposed to the subcatabolized state, to a pathogenic degree. It is also owing to this fact that this tissue-type is said to be of low vitality. Notwithstanding, however, that this type of tissue is so low in structural density, it does, under normal conditions, maintain itself of sufficient structural integrity to provide against all ordinary pathogenic conditions, and there are few exceptions, indeed, which are uninhabitable.

Additional to the predisposition entailed by the rarefied and flaccid structure of the appendix, is that of its peculiar position and of its blood-supply by a single artery. Its situation, opening as it does into the bottom of the cæcal pouch, renders it particularly liable to the effects of fermentation acid products of the small intestine, which empties into the cæcum just above the appendicial opening, and of the ascending and transverse colon. The now-established fact that the colon bacillus becomes an acid-producing organism in favorable (sugar) mediums, augments the list of myriads of sources of acid generation, by fermentation organisms, of the so-called nonpathogenic type.

In gastro-intestinal fermentation acidity, we have one of the most universal causes of appendicitis; but in the more purely intestinal cases we have the most frequent, because the most insidious and hence the most neglected of these factors. Many medical men quickly enough recognize and remedy the more expressive cases of *gastric* hyperacidity, but fail utterly to associate even the most suggestive *intestinal* symptoms, as flatulence, acrid stools, excoriated anus, hæmorrhoids, rectal fissure and fistula, etc., not to mention more obscure symptoms.

The relation of constipation, with its resulting autointoxication of retained fæces, operates directly as a systemic toxæmia, and as a local poisoning to the intestinal walls, thus producing both general and local suboxidation, subautolysis, and hence subcatabolism; and secondarily, as a combined result, an intestinal atony, flaccidity, dilatation, and ptosis, which coöperate with the original cause to augment the intestinal stagnation and the resulting magnification of fermentation and putrefaction. Another neglected factor of intestinal subcatabolism is the reducing action of putrefactive products in the intestinal tract, which act quite as energetically as deoxidizers of the contiguous tissues as acids, and often more so, owing to their absence of pungent properties which acids exhibit, and thus partially compensate by fibrosis and cicatricial contraction for the otherwise universal proclivity to parenchymatous rarefaction, flaccid expansion, elongation, and visceral and vascular dilatation.

In previous writings I have explained in detail, and at considerable length, the relations of tissue-rarefaction to the various pathologic conditions, and as present space will not permit its repetition, will content myself with mentioning general consequences, namely, flaccid expansion, elongation, dilatation, loss of motor function, anæsthesia, and all that they imply, loss of differentiation, disorganization

into confluent homogeneous, gelatinous masses, dry gangrene or liquefaction, and thence disintegration by putrefaction.

It is thus to be observed that while the lymphoid tissue of the appendix is normally one of comparatively low density, with a correspondingly low oxidation equilibrium, and is situated at the lower extremity of the intestinal pouch, and is thus predisposed to the ultimate anticatabolic action, it is not exclusively affected.¹ With the one exception of the acute traumatism of the cæcal region, which are rare, because the parts are well protected from extrinsic injuries, we are brought face to face with the fact that the appendix is practically never diseased, apart from the small intestine above, or the colon below, or both. Therefore, as the entire tract cannot very well be extirpated, it is an obligation of the medical man to prevent and cure the *disease* present, instead of delivering his cases over to a surgeon to divulse the most vulnerable and embarrassed organ. It is to the everlasting disgrace and mortification of the medical man that the wealthy classes, who are continually under the observation and direction of eminent men, in dietary, and all life-habits, in health as well as in sickness, are not only the very ones who develop appendicitis and most largely go to operation, but are almost exclusively those who attain to this distinction. No wonder that, in spite of the repudiation of fee-sharing by the organized profession, the medical man is accused of evil *motives* in these cases; and that it is the wealthier classes chiefly who are going in such numbers over to "Christian Science," osteopathy, and other irregular therapeutic fads, while we retain the poor, who have not thought themselves to have had the best in medicine.

As medical failure in these cases cannot be, by us, attributed to ignorance, the indictment of *fraud* is the common one, and "whole-page writeups" in newspapers are devoted to the stupendous fees of operating surgeons and to the almost exclusive limitation of this disease and operation to those able to pay them. That the whole profession suffers from the reflection of this state of affairs, there is no room for doubt. Yet it is evident that the operator rides in yachts and automobiles, and tours in private cars with railroad presidents, while the poor *medical* man silently accepts the consequences in unpaid bills, and only too often affronts, as a representative of a profession which is a parasite upon society, and which is thus unable to secure the passage of reasonable laws for its own protection.

Now to return from the above digression, the tissue of the appendix is not normally so soft or incompetent but what it easily maintains its integrity of compact dimensions and form, and it is only in the event of pathogenic suboxidation, rarefaction, tissue-expansion, elongation, and dilatation, *then, and only then,*

¹It is of interest in connection with my contention that appendicitis is a subcatabolic disease, that Max Kahane (Wiener klinische-therapeutische Wochenschrift, March 11, 1905) has placed himself on record as holding appendicular and tonsillar lymphoid tissue should be treated by x-rays, implying a stagnation of metabolism as their pathogenesis.

is it subject to torsions, flexions, distortions or other derangements by psoas or other muscular or other factors; *then, and only then*, does it develop a resulting inhibition of the normal blood-supply to the part. *Then, and only then*, does that rarefied cedematous "catarrhal" condition arise which provides the necessary colloid transudation which furnishes the nucleus for concretions, which dilates the neck of the appendix, letting in all manner of irritating intestinal contents, to act as coöperating factors. *Then, and only then*, does the involved tissue become sufficiently reduced (deoxidated) to insure the development of *hyperoxidation* (inflammation), with the inevitable cicatricial contractions, which also act as a coöperating factor by the arrest of circulation, which serves to carry the process to the gangrenous or putrefactive ultimatum. *Then, and only then*, is the confluent disorganization of involved tissues so pronounced as to bring about fusion of diverse tissue elements and *adhesions* with contiguous tissues. *Then, and only then*, do these areas become susceptible to infection by pathogenic and putrefactive organisms which open the way for more extensive invasion, and thus by their action add contributing factors. Lymphoid tissues are more susceptible to infection simply because of their predisposition to that degree of subcatabolism which is vulnerable to parasitic invasion. *Normal* lymphoid tissue may be said to be invulnerable to all ordinary contact with such organisms; *then, and only then*, does appendicitis become a "compression necrosis." If the practitioner of medicine permits it to progress to this stage, or does not know how to prevent it, he cannot give his case to a surgeon too quickly.

Prophylaxis.—There are two principal periods for the prevention: 1st, in the case of the family practitioner, who (especially in the cases of the wealthy "predisposed") is paid handsomely to conserve the health as well as the lives of his charges; 2d, during the intervals intervening acute attacks or, more properly, following an acute attack. At these periods, the bowels are to be kept free but not purged. All irritation, by medicines, is to be carefully avoided. Bland, easily-digested foods only are to be permitted; fried foods, the vegetable proteid foods (beans, lentils, etc.), fermentable sugars, acids, and all acidulated foods, and often coffee must be excluded; all fermentations and putrefactions must be promptly arrested, and acids neutralized by alkalis. Atonic tissues must be promptly restored by the selective action of ergot, or one of the adrenal preparations, hypodermically. Even a very simple diet, as of milk, is sometimes indicated in non-putrefactive conditions, until threatening symptoms are eliminated.

A very important procedure in the above connection is the ingestion of a pint of water as hot as can be sipped, in which has been dissolved a heaping teaspoonful of sodium bicarb. (Squibb), a half-hour before meals, *t. i. d.*

Treatment.—What *not* to do is often an important item of advice. After the diagnosis of appendicitis, do not begin by giving morphine or other anodynes,

or icing for pain. Do not give irritating castor-oil, or take the risk of rancidity in the stomach or intestines by administering sweet-oil. The late Dr. Hernan Mynter, of Buffalo, has said: "I have yet to see a serious case of appendicitis that was at all benefited by medical treatment." When one studies and observes the treatment heretofore in vogue, in the light of recent developments in the etiology and pathology of the disease, no wonder is excited that it was not more successful, and that the disease recurred repeatedly until the surgeon took charge sooner or later, if the patient lived long enough.

For the preliminary opening of the bowels I prefer the saline cathartics, preferably the sulphate or phosphate of soda, or mixed, enough to induce a free but not violent catharsis; best given in hot water on an empty stomach, and repeated at intervals to keep the bowels open.

For gastric fermentation, I prefer hydrogen peroxide in teaspoonful doses in a little water before and after meals. For gastric acidity, however evidenced, as heartburn, sour eructations of food, water or gases, etc., I always neutralize with ample quantities of sodium bicarb., preferably *minted*, owing to the anti-fermentative properties of peppermint. For the restoration of gastro-intestinal atonies and ptoses, I administer the hot sodium bicarb. solution before meals for a considerable period. In many private cases I advocate 50 per cent. saturated solution of sodium bicarb., per rectum by colon tube, as nearly inflating the colon as possible and having the patient hold it as long as comfortable, for purposes of absorption, once or twice daily, according to the urgency of the case.

For pronounced cases of gastric and intestinal atonies and ptoses, which can be determined by x-ray photography, by the bismuth ingestion method, I prefer ergot hypodermically by Livingston's method, though the adrenal preparations are of almost or quite equal service in recondensing the tissues, restoring tone, etc. *Nux vomica* orally is a good substitute.

Well-adapted massage and kneading moderately over the visceral region is of service in hastening the return to normal. In short, any and all methods which counteract splanchnic venous stasis are of value, and hence cold baths, exercises, etc., do good at proper stages. During the inflammatory stage and until the temperature and pain are eradicated I require rest in the recumbent position, and palpate the appendicial region *very gently*.

The personal factor is so important in these cases that empiric rules of treatment are impossible. I treat the *patient* in treating the *disease*, and only a general plan can be laid down. In acid cases it is often desirable to keep the urine alkaline for weeks. I find naphthalin an admirable intestinal antiseptic and very effective in conjunction with the other measures, above named, in suitable cases (fermentative and putrefactive). In some putrefactive cases I have found

teaspoonful doses of fl. ex. eucalyptus in water *t. i. d.* of great value. Respiration, cardiac action, circulation, etc., are all important.

Cases coming to physicians in advanced stages, showing gangrene, or extensive pus-formation by a high leucocytosis and indican in the urine, should be referred without delay to a competent surgeon.

After patients have been successfully tided over an attack of appendicitis, without operation, they should without fail always be instructed in the significance and danger of symptoms of gastro-intestinal fermentation and putrefaction, constipation, etc., and how to conduct their lives to avoid such consequences, and the proclivity to develop recurrent attacks, until existing atonies and ptoses are gradually cured; sometimes only after prolonged treatment and a carefully-regulated diet and habits of everyday life. Young persons who are confectionery habitués should be warned against these highly-fermentable products, which probably play quite as important a rôle in pathogenesis as alcohol. All factors of general subcatabolism, as detailed in previous papers, are of importance in the pathogenesis of the alimentary tract as they are of other regions of the body. *How, what, and when* to eat, exercise, as well as work, should be gone into and properly regulated. All strains and other violence are increasingly dangerous when the visceral organs are atonied and ptosed.

Of course, it goes without saying that chronic gastro-intestinal disease must be treated as such, and often treatment must be instituted in individual cases which the limitations of this sketch will not permit to be discussed, though necessary to a permanent cure.

A well-informed student of subcatabolism and a competent practitioner of medicine will appreciate the importance, in these cases, of visceral atony and ptosis, of maintaining a high degree of general metabolic equilibrium in the restoration of the normal tissue integrity, and to that end, that the hæmoglobin and red cells be raised to and kept at par, and that phosphorus, iodine, arsenic, and other necessary inorganic elements of nucleonic synthesis and catalysis be provided to make possible a normal oxygenation.

In submitting the above description of my treatment to the profession, I feel like apologizing for its extreme simplicity, yet trust that the gratifying results obtained by its use, together with an intelligent comprehension of what we have to deal with in appendicitis, and how the simple yet rational measures perform their work, will lead to what may become popularity, and to a new era in the therapy of appendicitis and allied enteric conditions, much to the credit of the pure medical man, who is, I believe, soon to retrieve his fortunes by making use of the principles of new chemical pathogenesis.

HOMER WAKEFIELD.

THE UNRECOGNIZED IRRESPONSIBLE.¹

THE most pitiable fruit of the times, so marked by evasion of law, looseness of manners and morals, laxity of marriage ties, of home rule, and of self-restraint, is the CHILD; and juvenile courts (a thing unheard of in the past), overcrowded hospitals and institutions, records of thousands of defectives yet uncared for—an unstable element too often reproducing itself, and wrecking continual disaster to society—attest to the number of victims. "What shall we do with it?" is the question of the hour. For ignorance and inability to grasp the situation are constantly creating fresh complications.

A clear note of warning which we, out of our experience, sounded some years since, is beginning to be heard, although I fear much mischief will be wrought through ignorance and misapprehension, before its true meaning is recognized, and carried forward in the way which that experience dictates. "Diseases desperate grown, are by desperate remedies relieved or," mark you, "not at all."

Many years since I pointed out that these, for the class morally or mentally defective, could be found only in separation, asexualization, and permanent sequestration; but egotism, ignorance, the cowardice of political leaders, and the sentimental gush which defeats so often the aims of charity refuse also to accept the physician's diagnosis.

England has led the way in the first of these—an example which we begin to follow—in the establishment of schools and classes for backward children, but, always conservative, has yet to take up the others, without which, for the absolute defective, the first is worse than useless. It may be that the quieter life of the British Isles does not tend to the production of that extreme type of defect demanding heroic measures of relief as do, undoubtedly, conditions existing in America. At least we meet with no such evidence in mass there, as our juvenile courts present, of the irresponsible defective of the criminal type, which is the class we will consider to-day. The victim alike of fateful heredity and unhealthful environment, this unfortunate seems doomed to be doubly and perpetually misunderstood. The idea of a human being existing without the moral sense is one difficult for the ordinary layman to grasp. To some, it is equivalent to being born without a soul; and although many do often assert that very thing of savages and of certain backward races, that the spiritual nature is the last to be developed, yet they do not know, and cannot be convinced, that there are people of apparent average intelligence living in their midst who must be forever deaf to moral suasion, because they have no moral nature to be appealed to. As rudderless ships, these derelicts on the

¹ Read at the National Conference on the Education of Backward, Truant, and Delinquent Children, at Philadelphia, Pa., May 7th, 1906.

vast ocean of life drift at the mercy of the elements, a peril to all in their path. This is more literal than figurative, and if the mind of the public would but accept it, the work of rescue, and of a two-fold protection, would be materially hastened.

It is needless to speak of reformatories. These may reshape a deformed nature, perhaps recover what has been lost, but never yet have they recreated what never existed; and with this element they may dig deep and patiently, yet never find the moral soil in which good principles may take root and grow. It is not there, and never has been. Call him a monstrosity if you will, but accept it as a fact, nevertheless, for the basis of your work, for the safety of society as well of the unfortunate, who—paradoxical as it may appear—will find in this recognition his only protection. The moral imbecile is more irresponsible than the insane, who in lucid intervals is naturally dominated and led, to some extent at least, by principles and habits of life founded upon moral law, that have become in a measure automatic. Of these the moral imbecile is as destitute as is a desert of vegetation. He has never been swayed by anything but the impulse to satisfy exaggerated evil desires. He is therefore the slave of egotism and the creature of opportunity, with no will-power to resist suggestion, no past to sustain him, and wholly indifferent to a to-morrow; even if it present the scaffold or the penitentiary, he would not realize it, but trust to some chance to evade it.

Kleptomania is, with many of this class, not a mania, but a natural quality, so to speak, just as any cardinal virtue is to any normal person. It is really not mania, but a perverted instinct; so much so, that we have many instances where the utmost ingenuity and even forethought will be exercised in gaining possession of some object which, as soon as acquired, immediately becomes valueless, or, if burdensome, is given or thrown away or buried out of sight, and the energies of the individual immediately concentrated upon some new scheme. In the same way prevarication, or illogical lying, has a greater fascination than straightforwardness and truth could have for the most saintly, and they will retreat from one position to another, and in the end unhesitatingly acknowledge the whole fabrication.

The sexual impulses are exaggerated in all grades of moral imbecility, but in the lower tend to brutishness and a revelling in obscenity and indecency, even to the eating of garbage and filth of all kinds. In addition to all this, he exhibits an absence of will-power, a morbid obstinacy in regard to law and order, and a ready obedience to evil suggestions, making him the slave of a higher and brighter grade who have a positive genius for ill. With no past and no future, unrestrained by regret or anticipation, with no hope, no fear, no abiding sense of right, with exaggerated impulses, always towards evil, and often a powerful heredity urging to some special form of vice, is the fact not patent that these unfortunates are not criminal because they are altogether irresponsible? And yet the law, which dis-

criminales between crimes committed with or without evil intent, is absolutely ignorant of those committed because of an entire absence of a restraining moral sense; a fall as innocent as that of the blind who stumble in the noon-day glare to their own undoing—nor will judge or jury believe it. Yes, I make an exception, for only a few years since I was fortunate in convincing a jury of the complete irresponsibility of a boy arraigned for murder. One of them told me that after my evidence, they simply could not bring in any other verdict, and even then the child was only saved from the scaffold by being declared *insanus*, the law making no provision for imbecility. We provide largely and liberally for the insane—the safety of society demands it, it may be said—yet this form of defect is more dangerous than insanity, because so often unrecognized, especially when associated, as it sometimes is, with great personal beauty, a pleasing address, or some special inherited talent. Its presence in the family and the school is a grief, often a terror, from which death is welcome to bring release, if indeed it does not first bring death or serious disaster to others.

Yet, on the other hand, we will find parents hoping against hope, and removing children after a period in a training school, unwilling to accept the assurance that it will bring only trouble to the home and to the child, who will miss the accustomed restraint and the companionship of his fellows; and that liberty for him will undoubtedly degenerate into license. We are not surprised, therefore, at the various reports that come back to us of such cases. For example, one boy deemed by his father capable of assisting him in his livery stable, immediately began charging double fares and pocketing the difference, to the consternation of the patrons and, later, of the father.

In a village some painters, unsuspecting, left their paints out over night, with the result that the neighbors' fences bloomed out in colors more brilliant than artistic. One of our former pupils, also graduated by his fond parent, when accused, stoutly denied the impeachment, until his egotism could not stand the temptation, and boastingly he admitted: "I bossed the job. A boss don't work, so I didn't do it." Yet another, removed by his father, was in the habit of borrowing any team he saw standing hitched, and his mother was so miserable between her fears for the boy, the visits of the police, and the fines she had to pay, that she took positive comfort in the thought that her other boy, an epileptic idiot in one of our custodial buildings, was protected and safe from harm.

A moral imbecile of high grade started out on his career at five years of age by shooting his sister. After giving an unlimited amount of trouble at home, he was placed in a training school, from which, after rapid mental improvement, he was withdrawn, and is to-day serving a term in a western penitentiary for forgery. Another—the victim of an heredity of insanity—removed from an institution in

spite of all protests, some twenty years ago, has during that period been thrice incarcerated in an insane asylum, arrested four times, and is at present serving out a four-years' sentence, fully recognized in the penitentiary as a mental defective. Yet another—the son of a ballet-dancer and a dissolute nobleman—immoral and dishonest, has been frequently detected in forgery, and influence alone has saved him from the extreme penalty of the law. In every case the mental defect, though pronounced, has been entirely subordinated to the moral defect.

To the oft-repeated and very natural query as to how to discriminate between the criminal and the irresponsible, the reply is, that it must be borne in mind that the irresponsible is always mentally as well as morally defective, incapable of any continued logical reasoning or action. Thus while most ingenious in planning and carrying out a design, he is by simple suggestion easily betrayed into confession. Again, that egotism peculiar to the imbecile is always urging him to boast of an achievement, regardless of consequences. Henderson, as I described him, was a fair type. "A series of contradictions, he is tender and cruel, ingenious and crafty, phlegmatic and nervous, unfeeling and yet affectionate; he is open, frank, artless, secretive, shy, deceitful, truthful in many ways, but also an accomplished liar. Thus atavism and environment have combined to form a moral imbecile, in whom the moral sense or faculty is either blunted or altogether absent."

Impossible in the schools and backward classes, drifting into the truant schools, frequently in evidence in the juvenile courts, these children are an equally disturbing element in houses of refuge, in reformatories, and in training schools. With us, after a trial in the training department, there is nothing left for us but to consign him to a custodial building, which, not designed for this class, has neither the opportunities for training, for occupations, for amusements adapted to his needs, nor the proper facilities for his control.

It does seem that such demand from so many sources would show the necessity for a colony reservation for the permanent sequestration of moral defectives, with sex separation complete and entire. This should be so devised and arranged as to avoid all appearance or suggestion of a penitentiary, for it must be borne in mind that its inmates are not criminals, but victims, to whom is due every amelioration of living in exchange for the liberty which would be a menace to themselves and to society. Ample space would be required, providing for schools, for training in various industries, for athletic sports, and other amusements. Buildings also should be so constructed, and inmates gathered into small groups, as to give as much a sense of family life as would be consistent with proper safeguarding. This should be still further assured in the selection of capable and refined house-mothers, teachers, and attendants.

Asexualization should be the law of such institutions, not only assuring to the individual release in large measure from exaggerated impulses and desires, but also the safety of society in event of a possible escape. Here, withdrawn from temptations and constantly attracted to congenial and useful occupations, tending always towards the good, the true, and the beautiful in nature and art; in such an atmosphere the unfortunate would come to find his compensation and life-happiness in concentration and conservation of energy, while society and the homes would be relieved of a burden at a cost which, compared with the present and all its attendant risks, would be indeed trivial.

MARTIN W. BARR, M.D.*

ON THE CAUSATION AND RATIONAL TREATMENT OF THE GALL-STONE DISEASE.

The most rational treatment of any disease is the etiologic treatment. We must first find out what is the real causation of an ailment, and then, by checking the cause of the evil, we will be able to prevent the same, prevention being better than cure, according to the English proverb.

Applying this golden rule to the therapeutics of gall-stone disease, we must ask, first, "What is the direct cause of gall-stones?" This is, as has been shown by Prof. Naunyn, of Strassburg, inflammation of the gall-ducts. And if we ask what is the causation of this inflammation, the answer will be, the immigration of bacilli from the intestinal tube. As long as the bile is flowing freely there are practically no bacilli, or very few, in the bile, but this is often impossible for the reason that the bile is flowing under a certain pressure through the narrow and oblique opening into the duodenum, thus rendering also very difficult mechanically the passage of bacteria into the ductus choledochus. But when the bile is stagnating the bacillary invasion cannot be avoided, and thus the inflammation is brought about, as shown also by the experiments of Charcot and Gombault, Mignot, Gilbert, and others, who were thus able to produce gall-stones experimentally. Thus the real or the main cause of gall-stones is the stagnation of the bile; hence gall-stones will be a frequent occurrence in all those conditions where bile is stagnating.

If we ask now what is producing the stagnation of bile, the answer will be, the atony of the gall-ducts and pathologic alterations in the tissues of the liver, which fabricates the bile. As has been shown by Doyon (not Doyen) the biliary ducts contract rhythmically every 15 to 20 seconds, and thus the bile is expressed.

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The main nerve of the muscles of the gall-ducts is the splanchnic, which, at the same time, is also governing the peristaltic movements of the intestine. Its excitation causes an arrest of the peristaltic movements of the intestine and at the same time a relaxation of the muscles of the gall-ducts. Thus we can understand that atony of the intestine, with habitual constipation as its consequence, is also accompanied by an atony of the gall-ducts and biliary stagnation.

The cells of the liver are fabricating the bile from the blood, which comes to the liver through the portal vein. Circulatory troubles in this important vein will thus expedite its fabrication, and still more so do pathologic alterations in the liver-tissue make for its destruction. The flow of the bile can also be hindered by compression, through cirrhotic tissues, of the bile-channels in the liver.

It can be concluded from the above, that gall-stones can be found, as a rule, in those persons who are suffering from an atonic intestine with habitual constipation and defective functionation of the liver. These persons we will find, naturally, most frequently amongst women who are also suffering from conditions I shall mention later, are much more often the subjects of constipation than men. Although it is true that pregnancy, with its mechanical consequences, favors the development of the gall-stone disease, it cannot be considered by any means, as is done by some authors, to be the cause of the greater frequency of gall-stones in women. For I have observed a whole series of cases of gall-stones in women and girls without any previous pregnancy. It existed at the same time along with a type of obesity in these cases, which I have described in previous articles as endogenous obesity, caused by degeneration of certain ductless glands (thyroid, ovaries) which govern the processes of oxidation.

Besides the obesity, there were other typical symptoms present, indicating a defective action of the thyroid, and amongst these I shall especially mention enteroptosis, atony of the intestines, and habitual constipation. As is well known, these are typical symptoms of a condition of thyroid insufficiency, not only in typical myxædema, but also in the less advanced and yet very frequent cases of partial *myxædema* or *hypothyroidia*.¹ After what we have said about the frequency of gall-stones in such cases, it will become clear to us. But it is not the atony of the intestine alone existing in these cases that predisposes them to gall-stones, it is the fact that the thyroid and liver, as all the other ductless glands, stand to one another in very close relation, and the alterations of the one can produce alterations in the other. Thus, the alterations of the thyroid are, as a rule, also followed by alterations in the liver.

The extirpation of the thyroid is followed by congestion of the liver, as found

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by Rogowitsch, Sanquirico and Canalés, Albertoni and Tizzoni, as also Sciolla, who describe a fatty degeneration of the liver after thyroidectomy.

Laulanie has found the same way, as also Van der Eecke and Rosenblath, very extensive alterations in the liver after extirpation of the thyroid. Jeandelise found hepatitis after the extirpation of the thyroid and parathyroids. The Japanese Kishi has described alterations in the blood-vessels of the liver occurring in a great number of animals after thyroidectomy.

Hun, Prudden, Mackenzie, G. Murray, and others have found, as a rule, a cirrhosis of the liver in myxœdematous persons. Vermehrem, again, has found an interstitial hepatitis, with thickening of the blood-vessels of the liver and of the bile-ducts, in myxœdema.

It is also of great importance that Gley, Laulanie, Cadeac and Guinard, Verstraeten, and Vanderlinder have found constantly biliary matters present in the urine of animals whose thyroid has been extirpated. After considering the above facts, it cannot be denied that the liver and the thyroid are in very close relationship, and after having myself maintained this fact, at the last French Congress of Medicine at Liege, I was glad to see that the president of the congress, Prof. Bouchard, of Paris, and recently Prof. Neusser, of Vienna, at the last German Congress of Medicine at Munich (23 April, 1900), coincided in my opinion.

Thus thyroid insufficiency causes atony of the intestine and of the bile-ducts, and, on the other hand, degenerative processes in the liver. The pathogenic rôle in the case of gall-stone causation is thus clear. This is shown by the result of an experiment of Blumreich and Jacobi, who, after extirpating the thyroid of animals, found a large dilatation of the gall-bladder, and, as I said before, also by the finding of biliary matters, gall-salts and gall-pigments, in the urine of animals after extirpation of the thyroid. Besides these experimental proofs, this fact is also confirmed by clinical evidence. Thus, as I mentioned before, the occurrence of symptoms of thyroid insufficiency in cases of gall-stones are shown by obesity, habitual constipation with atony of the intestine, etc. I also should point out that gall-stones are found more frequently in cases where the thyroid is altered. Thus, after pregnancies, infectious diseases in some of such cases, however, there follows direct infection of the bile-ducts, as, *e.g.*, in thyroid, old age (Horsley, Vermehrea, Lorand), etc. E. Hertoghe has also stated, in a communication to the Royal Academy of Medicine in Brussels, that frequency of the gall-stone disease is observed in cases of hypothyroidia.

Buschau cites several cases of death in myxœdematous persons after incarceration of gall-stones. But not only the thyroid, but also the ovaries, seem to play an etiologic rôle in the production of cholelithiasis, as they stand also in very close relationship to alterations of the liver. Thus, Senator and Fleishman have observed

in certain women a more or less considerable icterus during menstruation, menstrual icterus. Duncan, again, has observed icterus in cases of amenorrhœa. I have also observed in certain cases of dysmennorrhœa, and especially in cases of climacteric women, icterus and very often a congested liver that was distinctly sensitive on pressure. This fact has also been observed by others (Bennet, Henoch, etc.). The famous Frerichs has also observed that the cessation of menses in menopause has been often followed by swelling of the liver, which disappears soon after reappearance of the menstruation.

These facts will not surprise us if we remember that the sexual glands and the thyroid stand in very close relationship to each other. At each menstruation, pregnancy, lactation, and at the climacterium there is a strain put to the thyroid, which is found swelled, as a rule, at these times, and after such frequent strains a degeneration might follow. Thus exophthalmic goitre and myxœdema are far more frequent amongst women than amongst men. Habitual constipation and atony of the intestine are generally found, accompanied by alteration of the sexual glands, and can be explained by their relation to the splanchnic. It is well known that women are much more constipated than men, and this is founded on the fact that the sexual glands and the thyroid exercise a special influence upon the sympathetic (splanchnic) and the vagus, which are the governing nerves of the intestine and also of the bile-ducts. Degeneration of these glands is followed by atony of the intestine, and habitual constipation. According to Prof. Kisch and Theilhaber, there occurs in all uterine affections an arrest of the peristaltic movements of the intestine.

As logical conclusions from the above, it seems that to treat gall-stones rationally we must prevent atony of the intestine and habitual constipation, and if they already exist, we must try to cure this condition. In fat women especially thyroid and ovarian treatment, used in a scientific way, can give us good results after a prolonged course, especially as a preventive.

The treatment of constipation by dietetic regulation is far superior to treatment by drugs. It is evident that meat-food cannot make bowels move that are able to act mechanically upon the peristalsis of the intestines. Bulky foods that produce fermentation, such as large quantities of green vegetables, fruits, especially grapes, dark bread, etc., will act as a stimulant of the peristaltic movements. If the Carlsbad waters have, as well known, such marked effects against the gall-stone disease, it must largely be attributed to their laxative action, which causes a better peristalsis. It has, however, been shown by Herrmann that they also exert a special soothing effect upon the irritated mucous membranes of the bile-ducts. Using these waters, we can also observe on the bowels signs of a greater discharge of bile. These waters do not drive away gall-stones by causing colics, for in fact this should be prevented,

as there is no need to induce them to pass under fearful pains, thus eliminating a few gall-stones, when perhaps thirty or forty gall-stones still remain in the gall-bladder and gall-ducts. A quantity of gall-stones can remain scores of years in the gall-bladder without causing any trouble, as shown by the fact that in some places at autopsy in the hospitals there are found in the gall-bladder of every fifth person gall-stones without any apparent symptoms during lifetime. In treating the inflammation of the gall-ducts, aspirin gives us good results. At the same time, the patient should refrain from much exercise. Hot cataplasms applied to the liver region, especially with hot mud, as done in Carlsbad, contribute to alleviate the condition. In order to avoid the possibility of a gall-stone attack, I recommend my patients to refrain from much exercise, mental strain, etc., and especially very cold drinks. Operations upon gall-stones are indicated in cases of (1) empyema of the gall-bladder, (2) impermeability of the ductus choledochus by a large stone. In general, an operation should only be undertaken if the internal treatment has not given satisfactory results.

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HINTS ON THERAPEUTIC INDICATIONS.

I.

IN the selection of remedial agencies we should keep in mind practical classifications of indications, to aid in forming the sequences of our choice.

Some of those we may use act upon the mechanism toward which they are directed. Others are capable of accomplishing more than is immediately in the line of our aim; they serve to awaken collateral forces, the nature of which we may vaguely appreciate, or to which we blindly trust, fortified in our confidence by past experience. On the whole, the exponent of modern medical art depends for the most part upon recognizable possibilities, in those beneficent currents or powers, which merge and reinforce each other. This is effected partly by conscious choice and combination, and partly by the inherent recuperative potentialities, which tend, as a rule, to work in harmony, to exercise instinctive selections which, on the whole, are salutary. If it were not for these concealed, yet trustworthy, influences, human beings would be in perpetual jeopardy from many hidden perils verging upon serious dangers.

In the realm of therapeutics there is quite enough known, tested, and placed on record to justify confidence. There is exhibited, however, too little of consistency, of correlated knowledge, of judgment lodged in individual practitioners. In short, the acceptable principles of therapeutics are grasped by few of us, yet no more desirable knowledge can be acquired. A few hints are here outlined which may

aid in systematizing the direction of therapeutic indications. For instance, in the treatment of acute conditions the aim should be:—

1. To meet immediate constitutional needs, shown in disturbances of the organism as a whole, such as (a) fever, (b) depression, (c) pain, discomforts, (d) psychic and emotional perturbation, etc.
2. To control or eliminate toxins formed or toxics present.
3. To meet and control characteristic, symptomatic phenomena.
4. To overcome and correct intercurrent phenomena sufficiently severe to be classed as complicating.

1. Fever is a conservative action of nature, whereby are burned up the products of disturbed metabolism, toxins and toxics, and waste matters are destroyed. *Per se*, the fever needs no interference unless excessive or unduly prolonged, inducing damage to structures of vital organs, ductless glands, tissues, and is met by water, salts, food, quiet, rest, time, etc.

Agents to control any over or underaction of conservative or auxilliary forces, compensatory action of organs, *e.g.*, of skin, bowels, lungs, by heat, cold, moisture, water enemas, laxatives, diuretics, etc.

2. To overcome the effects of toxins formed: By the use of agencies to enhance or reawaken the autoprotective powers, *e.g.*, the plasmatic salines, antitoxic sera. Specifics: quinia in malaria, mercury in syphilis, thyroid extract in myxoedema, etc.

3. To control symptomatic phenomena, distressful by prolongation, *e.g.*, cough, rhinitis, headache, local congestions of eyes, conjunctivitis, difficulties in breathing (*e.g.*, in pneumonia, bronchitis, asthma, emphysema, etc.), dryness of throat, mouth, etc., derangement of secreting glands, stomach, intestines, liver, bitter taste in mouth, etc., constipation, suppression of urine, suppression of skin, sweat-glands, etc.

4. To meet intercurrent phenomena, sufficiently severe to be classed as complications. Gastritis, vomiting, digestive derangements, pneumonia (in, *e.g.*, typhoid fever, measles, pertussis, etc.), diarrhoea in most infections; bronchitis in measles, pertussis, etc., convulsions, eclampsia; congestions of kidneys (*e.g.*, scarlet fever, etc.).

There is the problem of the treatment of convalescent states, involving many factors other than strictly medical, *e.g.*, the condition of life, financial, social, previous training, tastes, race, religion, convictions, prejudices, etc.

Also the emotional states, influencing all functions, especially the circulation.

There is also the treatment of developmental defects, organic limitations.

Take the nervous forces at par 100, estimate functional competence of various organs, in percentages beginning with the

1. Brain; the nervous system, but especially the vasomotor system.
 2. Digestion; metabolism.
 3. Circulation, heart, vasomotor competence.
1. Judge the influence of psychic forces, emotions, elation, depression, courage, fear, etc.
 2. Estimate how much there remains of original organic and other structural integrity; of symmetric development; of hereditary or inherited individual vigor.
 3. Determine the degree of existing vigor, capacity for recuperation.

In chronic disorders: Estimate

1. How much of original integrity the individual or the part exhibits.
2. How great the previous damage.
3. What capacity exists for recuperation.

Chronic disorders of children, functional disturbances which tend to persist, may display clear or obscure etiologic indications; the morbid anatomy or pathologic chemistry may be known or not. In so far as the developmental damage is not irreparable, it may be modified more or less. Integrity of the structures once seriously hurt, *e.g.*, chronic fibroid changes in blood-vessels, nerves, or viscera, it would be idle to expect full restoration. We therefore endeavor, says Cohen (S. S. Cohen, Principles of Therapeutics), to maintain function in the organism at large and repair the damaged viscera or tissues. Chronicity is a more serious problem in the young, because of the insults to development, but encouraging in so far as youthful cells are elastic and adjustable, the organism being presumably of fair original integrity. Time is the chief element; nutritive measures, over-feeding, usually in contrast to under-feeding in acute states, action rather than too much rest, change and modification of measures for salutary effects on both slowly-acting cells and psychic states. If we cannot repair, we must check retrogression, we must be of boundless hopefulness and persistence. Curran Pope (American Medicine, April 1, 1905) admonishes us to remember that in the selection of drugs in chronic states we must not be led astray by their effects on acute conditions, which is a very different proposition. Homœopathy has taught many points of value in the use of small, repeated doses of tissue-modifiers. Pope also remarks that where surgery is invoked the effects are ablative, not therapeutic. There are probably great opportunities yet open for the modification of protracted or marcrobiotic maladies, through increase in knowledge of controlling oxygenation through the influencing of the vasomotor functions, the adrenal system, the manual, hydrotherapeutic, temperature, alternations in exercises, and other rational therapeutic measures. In children it is often not practicable to employ some of those measures shown to be of increasing

efficacy in adults, *e.g.*, faradic electricity, static waves, sinusoidal currents, even Roentgenotherapy, etc., because of their terrifying by-effects. Fortunately, by the aid of manual therapy and massage we can secure the same results as by many forms of electricity, because in all these the effects are chiefly upon the vaso tonus. It is to my mind often equally efficacious with them if employed with skill by the physician with a full knowledge of the visceromotor mechanisms.

To present the status of present acceptable beliefs in the value of drugs, let me give an abstract of the views of Frederick C. Shattuck (Boston Medical and Surgical Journal, March 29, 1906):—

Shattuck states the leading therapeutic principles as follows: 1. Do no harm. This principle seems to be well met by the homœopathist, who uses the infinitesimal dose. He does no harm, save in so far as he may miss doing good. 2. Try to see as clearly as possible just why you give a drug, your purpose in giving it, whether as a specific, curative, palliative, or as a placebo. 3. As far as you can, give a drug uncombined. This is a general rule subject to many exceptions. 4. In using an efficient drug, be as sure as you can of a good preparation, and then give it until something happens, either the desired effect, or evidence appears that the limit of toleration has been reached, what is called the physiologic, but the author calls toxic effect. Disregard of this law is responsible for many therapeutic failures. Our knowledge of drugs as therapeutic agents rests mainly on an empirical basis, and in drawing conclusions we must keep keenly alive to the manifold sources of error.

Also it is desirable to know in outline the principles of homœopathy. Frederick B. Percy (Boston Medical and Surgical Journal, March 29, 1906) tells us that the essentials of the law of cure are: 1. That every drug should be thoroughly tested upon the human body, and that facts thus elicited shall be supplemented by further experiments upon animals, and also by the results of poisoning, when possible. 2. That the conditions thus occasioned are those which when present in diseased states will be cured by the same drugs. 3. That the dose to accomplish this must be sufficiently minute to occasion no aggravation of the symptoms present. Advantages to be gained from using drugs in this way are: 1. Simplicity in form and administration, the single remedy is natural corollary. 2. Precision. 3. It assists nature, does not thwart or check her, and thereby fulfills that most important essential of all cures.

J. MADISON TAYLOR.

Cyclopædia of Current literature.

ANÆSTHETICS AND RENAL ACTIVITY.

Chloroform.—The volume of urine secreted by the kidney is, as a rule, affected during chloroform narcosis in two ways. In the early stages, when the anæsthesia is light, the quantity is frequently increased. During full anæsthesia the secretion is always diminished, and may be suppressed. The after-effect is invariably a great increase, which in certain periods may reach to four times the normal volume for the same period of time. The maximum outflow occurs about three hours after removal of the anæsthetic.

The total excretion of nitrogen is, as a rule, greatly reduced—more so than the quantity of urine. The averages taken from experiments with diminished urine volume show that during the anæsthetic period the excretion of nitrogen fell to 18 per cent. of the normal, whereas the quantity of urine in the same series fell only to 35 per cent. of that amount. In a minority of the experiments with increased urine volume the total nitrogen per period was also increased, but to a much less extent than the volume of urine in the same experiments.

The urine secreted during chloroform anæsthesia is almost invariably more dilute (contains less nitrogen per cent.) than the normal urine. This holds good even when the volume of urine is diminished; hence it is inferred that chloroform affects not only the blood-flow through the glomerulus, but also the secretion of nitrogenous solids into the tubules, and the latter even more than the former. The result, therefore, favors the theory of urinary secretion

advanced by Bowman. There is a general, but not accurate, correspondence between urine-outflow, kidney-volume, and blood-pressure. The relationship between the first and second is closer than between the first and third. A state of almost complete suppression may coexist with a comparatively high blood-pressure.

In prolonged narcosis, with marked diminution of urine volume, there is a considerable exudation into the renal tubules of leucocytes, which subsequently escape with the urine. The condition is probably produced by more or less vascular stasis in the glomerular vessels.

The excretion of chlorides is much increased both during and after chloroform narcosis. In the fourth period, after removal of the anæsthetic, the amount may be ten times the normal quantity in the urine of the dog. Albumin appears in a small proportion of experiments after chloroform inhalation. Reducing substances other than glucose are almost invariably increased. The nature of the reducing substance has not been definitely determined.

Ether.—During ether narcosis the volume of urine secreted, as in the case of chloroform, is affected in two ways. In the majority of experiments there is a decrease, in a few an increase. The latter is probably an early or light effect; the former, a pronounced effect. The depressing effect is, however, more marked than with chloroform, and complete rest more readily occurs. The after-effect is also similar to that of chloroform, but, as a rule, less marked. The maximum outflow of urine occurs

about three hours after removal of the anæsthetic.

The effect of ether on the output of nitrogen corresponds more closely with its influence on the outflow of urine than is the case with chloroform. In the later stages of the anæsthesia, where the urine volume is decreased, the excretion of nitrogen is diminished almost exactly to the same degree as the urine volume. In the group of catheter experiments the excretion of nitrogen fell to 26.03 per cent., the quantity of urine to 25.4 per cent. of the normal amount.

The effect of ether narcosis on the concentration of the urine differs also from that of chloroform. With the former, the urine, when diminished in volume, is, as a rule, more concentrated (contains more nitrogen). The converse was the case with chloroform. The effect of ether is, therefore, primarily vascular.

In ether narcosis, when the curves of urine outflow, kidney volume, and blood-pressure are compared, although there is not complete parallelism there is, on the whole, a closer correspondence than is the case with chloroform. This statement does not apply to the arrest of urinary secretion, which occurs more readily, and with a relatively higher blood-pressure, in ether than in chloroform narcosis.

The escape of leucocytes into the urine after full ether narcosis is more marked than with chloroform, probably indicating a higher degree of stasis in the glomerular capillaries. Dilatation of capillaries and escape of leucocytes have been seen by previous investigators after ether inhalation in the case of other vascular districts than renal. An increased excretion of chlorides is seen after ether inhalation, but much less and of shorter duration than in the case

of chloroform. Temporary albuminuria appears in dogs in a much larger proportion of experiments with ether than with chloroform. Reducing substances, not sugar, which were not present in the normal urine, appeared in a small number of the experiments after ether narcosis.

A. C. E. Mixture.—During full narcosis from the above the outflow of urine is diminished, but to a less degree than with either chloroform or ether. The after-effect is usually greater than with ether. The excretion of nitrogen is less depressed than the volume of urine. The averages in the two cases are 58.8 per cent. and 40 per cent., respectively. The effect on the concentration of urine is variable. In half the experiments with diminished volume there was also diminished percentage of nitrogen. In the remaining half the percentage of nitrogen was increased. The results, therefore, alternate between those of chloroform and ether. The chlorides are increased to a less degree than with chloroform, but to a greater degree than with ether. In its short duration the effect resembles that of ether.

Ether-Chloroform Mixture.—The full influence of the mixture produces a diminution of urine less than that of ether, but more than that of chloroform. The after-effect is considerably less than with either chloroform or ether. The excretion of nitrogen is less influenced than that of urine—a fall to 48.6 per cent. in the former case, as contrasted with one to 26.6 per cent. in the latter. The effect resembles that of ether more than that of chloroform or A. C. E. mixture. The after-effect was inappreciable. The urine of the anæsthetic period was in all cases more concentrated than normal, in this respect also resembling the influence of ether. The chlorides

were increased, but to a less degree than with any of the previous anæsthetics. The effect closely resembled that of ether. W. H. Thompson (*British Medical Journal*, March 17 and 24, 1906).

APPENDICULAR FEMORAL HERNIA.

According to the writer, appendicular hernia is more frequent than has been supposed. When occurring in conjunction with the cæcum, no special consideration may be involved; but when occupying the sac alone, new problems of treatment are introduced. The appendix is more apt to be found in femoral than in inguinal hernias. It has occasionally been observed on the left side. A herniated appendix is apt to become adherent and inflamed, and, as a matter of clinical experience, this danger appears to be greater when it occupies the sac alone than when it is accompanied by other portions of the intestine. The diagnosis of appendicular hernia has not been made, as a rule, before operation. In all cases operated upon it is desirable to remove the appendix unless the patient's general condition or safety contraindicates this course. A. C. Wood (*Annals of Surgery*, May, 1906).

BILE-ACIDS AS A REMEDY.

Bile-acids, according to the writer, may be employed with propriety chiefly in three conditions that are causally related to each other, namely: intestinal putrefaction, hepatic insufficiency, gall-stone disease, and the various syndromes known to be consecutive to these states. The author employs glycocholic acid, in the form of the sodium salt, because it is more readily procurable and cheaper than taurocholic acid. The dose varies according to the exigencies of the case. Half-grain doses may be given at frequent intervals until the desired ef-

fect is produced. The writer states that there is never any danger of giving too much, because the sodium glycocholate in no way deranges the stomach, and, if given in very large doses, merely occasionally produces a little diarrhoea, which promptly carries off the surplus. Aside from the clinical results obtained, there are three chemical indices that enough is being given: 1. The disappearance of sulphides from the stools; 2, the disappearance or great reduction of the aromatic sulphates (of which indican is the prototype) from the urine; 3, the appearance of bile-acids in the urine. A. C. Croftan (*New York Medical Journal*, April 21, 1906).

BRAIN-INJURIES, TRAUMATIC.

It should always be remembered that the brain of a person who has received a head-injury in which the vulnerating force has expended itself locally is vastly different from that in which the force has been broadly diffused. In the first instance, a circumscribed fracture of the vertex, with possibly a localized brain-trauma, is usually found; in the second, the condition usually seen is a basal fracture, with generalized brain injury—commotion, contusion, or laceration. The condition ordinarily termed "concussion" means in almost all, if not all, contusion and laceration as well. The symptoms of compression are the same, regardless of the cause of the compression. Elevation of temperature is practically a constant symptom in all severe head-injuries. Fracture usually plays a very minor part in the final outcome, but sepsis, laceration, and hæmorrhage are the factors which determine the fatal issue.

In treatment, the indications to be met should be kept clearly in mind—prevention of sepsis, control of hæmor-

rhage, treatment of the concussion or shock, removal of all sources of irritation, and remembering the possibility of abscess, etc.; also the appearance of a fracture is no indication of the underlying brain injury. R. H. Moss (*Lancet-Clinic*, April 28, 1906).

BRIGHT'S DISEASE, CHRONIC.

Two affections are included under the head of chronic Bright's disease by the writer: 1. Chronic parenchymatous nephritis, the later stage of acute nephritis. The problems of treatment are to promote the growth of healthy cells, to avoid all fresh irritation, and to relieve the weak and delicate organ. One of the first signs of improvement is the appearance of œdema. Iron is of the greatest service in the postnephritic anæmia. Should the pulse-tension fall much below normal, tonics such as digitalis and strychnine are called for. The more the renal functions are impaired, the more actively must the complementary organs be worked—the skin and bowels. As the kidneys regain their functional powers, this complementary treatment should be less active. The gradual reduction of the amount of albuminuria is the best indication of recovery. The first question is that of diet; if kept on a milk diet, the patients do not improve after a certain point, so that the diet must be strengthened. Alcohol, meat-extracts, salted and preserved meats, and vegetables rich in irritating salts (tomatoes, asparagus) should be avoided in all forms of kidney disease. But eggs and red or white meat may be given. Every precaution must be taken to avoid catching cold. Bed is the safest place for children.

2. Granular kidney. In this condition, the course of the disease is progressive and its origin obscure. Of

drugs, nitroglycerine is useful, and may be given regularly. To increase the amount of urine, caffeine and theobromine (diuretin) are useful. Pilocarpine is an excellent drug, relieving the headache and restlessness and doing good generally. S. West (*Lancet*, April 14, 1906).

CIRRHOSIS OF THE LIVER, ATROPHIC.

The pathological changes may be summarized as an increase of connective tissue, atrophy of the liver-cells, increased number of bile-radicles, and obstructed portal system. The symptoms during the early stage are usually slight and point rather toward dyspepsia than anything more serious. Later, when the portal system becomes compressed, there ensues the onset of a graver condition. Nausea and vomiting are present. The bowels are irregular in action, sometimes constipated, sometimes loose, and a yellowing of the conjunctiva may be noticeable. Later the abdominal subcutaneous veins are dilated, forming about the umbilicus the characteristic caput Medusæ. The urine is scanty, of high gravity, its urea is reduced and uric acid is increased. Jaundice is not a marked feature, and fever is usually absent, while respiration may be embarrassed by pressure from the distended abdomen or from pleuritic effusion. The general nutrition suffers greatly, and the heart-action is often weak. After a course of one or more years death is the usual termination, although in some instances recovery has been reported. Alcohol should be interdicted, as well as rich and highly-seasoned foods. Milk, if possible, should be the main article of food; soups and a small amount of farinaceous foods may be added. Gastrointestinal catarrh should receive attention, the bowels kept

regular, and an attempt made to control the ascites by cartharsis and diuresis in cases in which these measures are not contraindicated. Tapping to relieve ascites is most efficacious, and should be done under strict antiseptic precautions. Hepatic extract has been given with apparent profit. W. L. Wasson (Medical Record, May 12, 1906).

DIABETES, DIETETIC MANAGEMENT OF.

Four points in particular are regarded by the writer as of a special practical value in the dietetic treatment of diabetes, as they may guide the practitioner away from the paths of routine and still enable him to remain within the limits of safety. The first of these points is the danger of too much meat. Meat actually leads to sugar-excretion in diabetes, and excessive meat-feeding favors the development of acidosis. Withdrawal of meat appreciably increases the tolerance for carbohydrates, even in mild cases. The second point is the danger of too little carbohydrate, which results in acidosis and, finally, coma. It is important to determine the tolerance or the so-called boundary of assimilation for carbohydrates in each case of diabetes. Third, a diabetic should receive the largest amount of fat in his food that he can possibly stand. Not only does fat spare the tissue-albumins, but its caloric value is so high that it aids most materially in maintaining nutritive equilibrium. Fourth, the value of the rice, potato, milk, and oatmeal cures. The writer's experience has been limited to the oatmeal cure. He claims that if the rule is observed to stop the oatmeal cure if good effects are not seen within three days, the number of bad results will be reduced to insignificant figures. The best results are obtained in juvenile diabetics, and he

urges that no case of juvenile or adolescent diabetes should be deprived of the benefit of an oatmeal cure. A. C. Croftan (Therapeutic Gazette, April 15, 1906).

DIGITALIS, ACTION OF, UPON THE HEALTHY ORGANISM.

The writer states that it has been shown that digitalis can cause the disappearance of cedema without increasing the blood-pressure, and that it is possible to obtain the therapeutic action of digitalis without change or even with a lowering of blood-pressure. Unfortunately, conditions in pathological states are complicated and variable; consequently the author has studied the action of digitalis in health. He takes, as an index of the action of the drug, the lowering of the pulse to a certain rate, and in his experiments has used *strophanthus*, which acts in the same manner as digitalis and without disturbing the stomach. The action is best manifested in young persons. If the blood-pressure is measured by the sphygmomanometer, the systolic pressure in a healthy individual is seen not to be elevated by digitalis, but remains constant. This may be explained thus: If an animal is given atropine previous to the administration of digitalis, the pulse is not slowed by the latter, but the blood-pressure is markedly increased; consequently, it must be that the slowing of the pulse-rate opposes the action upon the blood-pressure. Likewise in man, if the slowing of the pulse is avoided, the blood-pressure will be increased by the digitalis. This may be done by injecting hypodermically $\frac{15}{1000}$ of a grain of atropine. On the contrary, it is shown that the acceleration of the pulse caused by atropine does not affect the blood-pressure in the

healthy subject. In summing up, the author states that the action of digitalis (retardation of the pulse) may be effected in the normal subject by means of strophanthus. This action is not associated with increase of blood-pressure; if the slowing of the pulse-rate is counteracted by means of atropine, the blood-pressure is raised above the normal. The slowing of the pulse, therefore, acts as an obstacle to an increase in blood-pressure. A. Fraenkel (*Münchener medizinische Wochenschrift*, No. 32, 1905; *American Journal Medical Sciences*, May, 1906).

ECZEMA, TREATMENT OF.

In acute eczema, the writer advocates the use of ointments, which protect the skin and absorb secretions, and to which may be added various medicinal substances. Of chronic cases, those resulting from the acute type, in which tar is indicated, and those primarily chronic, in which sulphur should be used, must be differentiated. In the first type anthrasol is recommended by the author; in the second, pyrogallol acid and crysarobin, which seem to be more active than sulphur. Thiol and thigenol are good sulphur preparations. Prurigenous eczemas are most obstinate, especially when they are accompanied by chronic skin-inflammation, cedema, and are complicated by acute exacerbations. In this form the author employs lenigallol—a pyrogallol acid of diminished toxicity—in 10 per cent. strength, with zinc ointment. This should be applied at the beginning of the exacerbation, and as this becomes ameliorated, 10 per cent. of anthrasol is added to the ointment, and later a 10 per cent. anthrasol ointment without lenigallol is used to finish the treatment. Kromayer (*Wiener medizinische Wochenschrift*,

No. 3, 1905; *American Journal Medical Sciences*, May, 1906).

ENURESIS, TREATMENT OF.

Atropin, used in the form of an extract or the tincture, or as liquor atropinæ, is the only drug from which the writer has derived any good results in the treatment of enuresis. He usually gives 10 minims of the tincture three times a day as the initial dose, and raises the dose week by week up to a dram three times a day. He says it is essential that the dose should be sufficient to produce evidence of its action, and that it be used over a long period. The dose should be diminished slowly until the drug can be dispensed with safety. A period of from three to six months will usually be required to obtain permanent relief. The belladonna is employed by the author in conjunction with potassium citrate in the majority of cases, and in a few instances, in which he believed that hyperacidity of the urine was the chief cause, he found potassium citrate alone to be efficacious. Another drug which he has found useful, especially in cases of bacterinuria, is urotropin (hexamethylenamin, U. S. P.). He says it must be given well diluted. He has used it in a series of thirty consecutive cases, with good results in nine instances. H. Thursfield (*British Medical Journal*, April 21, 1906).

EXOPHTHALMIC GOITER.

One case is reported by the writer, who makes the history the basis of some remarks on the nature of the disease, which he is inclined to regard as essentially one of the sympathetic nerve ganglia, rather than one of the glandular system. The ganglia connected with the cardiac plexus would give rise, if diseased, to an inhibition of function

and to a loss of tone in the large arteries. This loss of tone, produced by disordered action of vasomotor nerves, would cause a general dilatation of the large arteries; it would be first felt on the right side and in the innominate artery, the first large vessel arising from the aorta; it would be followed in a direct line into the common carotid, the external carotid, and into the first branch of the external carotid—that is, the superior thyroid artery. Similarly, the loss of tone, producing dilatation in the thyroid axis, would be continued into the inferior thyroid artery. This would account for the usual prior enlargement of the right lobe of the thyroid gland. The proximity of the middle cervical ganglion, which gives off the middle cardiac nerve; the sympathetic nerves at the back of the sheath of the common carotid artery; the upper and lower cervical ganglia, with the internal carotid and subclavian arteries, are to be remembered.

According to the author, it seems reasonable to argue that the tachycardia, and possibly the palpitation, may be caused by communication from the last cervical ganglion, through the accelerator nerves, as it is well known that when stimulated these nerves produce a quickening of the heart's beat. It is well known, also, that division of the cervical sympathetic causes vascular dilatation of the face, which is accompanied by increased perspiration. As regards the exophthalmos, a similar argument will obtain from the contiguity of the sympathetic root of the lenticular ganglion with the ophthalmic artery. The persistent or enlarged thymus, the enlarged lymphatic glands, the increased connective tissue in the neck, are not these due simply to increased vascularization? The only actual evidence that the dis-

ease originates in these ganglia is based on the fact that Greenfield has found changes therein in the shape of leucocyte invasion and degeneration of the ganglion cells. It remains to be demonstrated that such changes are constant. H. T. Dufton (*British Medical Journal*, April 21, 1906).

FEVER.

The current theories as to the causation and meaning of fever in health and disease are discussed by the writer. He believes that the regulation of heat differs in health and in disease, even differs in different febrile conditions in relation to the differing cause—bacteria, protozoa, chemical agents. In his opinion, there is no sufficient evidence for the existence of specific heat-centers. Thermo-regulation can be adequately explained by the functions of the ordinary nerves and motor-centers, vasomotorial and trophic. In considering the problem of heat-regulation, heat-absorption must be taken into account as well as heat-production and radiation. As the thermic function is secondary to the motorial, there is no occasion to presuppose the existence of heat-centers. By the excitation of muscular spasm through the ordinary motor-nerves, a greater amount of glycogen is consumed, and hence a greater development of heat. However, this will not account for fever in the diseased person—for example, in tetanus there may be very powerful muscular spasm and yet no rise of temperature. Again, many fevers have no rigor. In these cases the toxins act directly on the glycogen contained in the muscles and liver. It has long been known that bacteria are capable of destroying glucose, and in diabetes the glycosuria has disappeared when an acute infection has attacked

them; probably this disappearance of the glycosuria is due to the glycolytic action of the bacteria. In non-diabetics, hyperthermia follows, from the greater consumption of glucose which exists normally and the diminished synthesis of glycogen. In the healthy, heat is produced and regulated by muscular action; in the diseased, although the combustible material is the same, the *modus operandi* is quite different, being due in this case to the result of bacterial action and quite independent of any nerve-action. The function of thermogenesis is not the peculiar property of any exclusive organ or organs, but is secondary to the processes of general nutrition, so that no nerves can be considered as exclusively thermic; every nerve may in a certain sense be thermic. The regulation of temperature is strictly correlated to the production, absorption, and radiation of heat—or, in other words, to the catabolic, anabolic, and ecboic processes of metabolism. Giuffrè (*Riforma Medica*, January 27, 1906; *British Medical Journal*, April 28, 1906).

FRACTURES AND DISLOCATIONS, X-RAYS IN.

The author's conclusions as to the influence which x-rays have exercised upon treatment of fractures and dislocations are as follows: No new methods of treatment have been introduced since or due to the discovery of x-rays. The ordinary symptoms of fractures and dislocations are sufficient to form a correct diagnosis in the vast majority of cases, and x-rays are unnecessary. In injuries to bones or joints which are obscure from any cause, the aid of x-rays should always, if possible, be obtained. The value of x-rays *alone* in forming opinion with regard to treatment is nil.

X-ray photographs should be obtained when doubt exists with regard to reduction of a recent dislocation; in old dislocations, they are of no assistance in deciding upon any line of treatment. X-rays are of no value in forming opinion as to the progress of the process of repair in recent fractures, and they are also useless in forming opinion as to the usefulness of a limb; their value is limited to the determination of the mechanico-pathological conditions of the fragments. The evidence afforded by x-rays is deceptive, misleading, and should only be submitted to and acted upon by those who understand their value. J. Lynn Thomas (*British Medical Journal*, May 5, 1906).

GOITER, X-RAYS IN.

Two instances of the treatment of goiter by the x-rays are reported by the writer. The first was a woman, aged fifty-two years, who had a metastatic cancerous growth below the clavicle, resulting from a carcinoma of the breast; a parenchymatous goiter was coexistent. The subclavicular tumor was treated and favorably affected by the x-ray, and during the treatment the left lobe of the thyroid was reduced to a quarter of its former volume. The second was that of a woman aged twenty-one years, afflicted with a parenchymatous goiter of a year's duration. The growth interfered with respiration, but after two weeks' treatment its size was less, and by the seventh week the respiratory symptoms had disappeared. The author very properly states that a large number of observations are needed in order to ascertain which classes of thyroid enlargement are most favorably affected by the x-ray. The treatment must be employed with caution in the exophthalmic type, but it is applicable to retro-

sternal growths, since the sternum does not interfere with the deep action of the rays. R. Stegmann (*Münchener medizinische Wochenschrift*, Nu. 26, 1905; *American Journal Medical Sciences*, May, 1906).

GOUT AND ITS CAUSATION.

The writer calls gout a form of sub-acute or chronic toxæmia. The exciting cause may be the toxin of micro-organisms acting directly or indirectly through a condition of lowered bodily resistance, or an antitoxin caused by deficient digestion or metabolism. Uric acid cannot be regarded as a distinct factor in the causation of disease; as an etiological entity it must be discarded. As yet, a specific organism for gout has not been found, and the general metabolism plays a greater part in the action of accidental or exceptional intestinal toxins than is generally acknowledged. Numerous hypotheses as to the etiology of gout show that knowledge of its intermediary metabolism is increasing. The relation of the purin bodies to gout is still obscure. Ferments related to uric acid have been discovered in various organs of gouty subjects, so that the matter of uric acid cannot yet be entirely disregarded in this connection. I. W. Hall (*Practitioner*, March, 1906).

HÆMORRHOIDS, CONCEALED HÆMORRHAGE FROM.

Attention is called by the writer to a source of anæmia which is often overlooked. He has found cases in which there was a continuous bleeding from piles, situated high up, which the patient was not aware of. The patient presents only the subjective symptoms, complaining of nervousness, dyspepsia, headache, palpitation, dizziness, faintness, sleeplessness, cold feet and hands,

HEART-DISEASE, DIET AND.

and grows constantly paler and weaker. A diagnosis of pernicious anæmia may be made, or of some cachexia. The stools appear normal upon gross inspection, or a faint suggestion of blood may be seen. But if the stools are examined with the microscopic and chemical diagnostic aids, more or less blood is found. A retroscopic examination shows hæmorrhoid nodules high up within the sphincter. The proper surgical treatment brought to bear cures the constitutional disease. C. A. Ewald (*Berliner klinische Wochenschrift*, March 10, 1906; *New York State Journal of Medicine*, May, 1906).

HEART-DISEASE, DIET AND.

The writer recommends that plain food of all varieties, plainly cooked, taken in regular meals, without any overloading, or excess in solids or liquids, should be enjoined. Gastric or intestinal dyspepsia is naturally inconsistent with favorable nutrition of the body generally, and of the myocardium in particular. In the young, so long as sufficient food is taken, there is no need to encourage excess, or to feed habitually between meals. Strong meat-soups and essences are to be avoided, and tea sparingly taken by both young and older patients. As a rule, all alcoholic drinks are best omitted from the diet, and tobacco-smoking is to be abjured, or very slightly indulged in, and then only after a meal. If tea or tobacco induce palpitation, neither must be used. If these measures are imperative in the case of simple myohypertrophy of the heart, they are even more so when failure of muscular efficiency shows itself by the well-recognized symptoms of dyspnoea, palpitation, and oppression of the chest.

If, as a result of this failure, there is dropsy, the diet has to be modified. It is necessary to feed such patients with small meals, and to limit the amount of fluids of all kinds. It is also desirable to make the principal meal soon after midday, and to enjoin a lighter one in the evening; to avoid giving, at any one time together, proteids and carbohydrates. The choice of food is hardly important, so long as it is simply prepared and readily digested. Predigested food is not so necessary as is commonly believed, but it may be needed in some cases. Soups and milk, therefore, are unwisely recommended in most instances, as tending to flatulence and discomfort in bedridden or sedentary conditions. Coffee with an equal part of milk is often a good cardiac stimulant, and may be better digested than tea as commonly made. A small cupful of freshly-made China tea, with cream, may be given in the morning, and as much cocoa with milk later in the day. Small amounts of water or unaërated, indifferent spa water, may be given between meals. In the later stages of progressive heart-failure with tumidity of the liver and dropsy, predigested foods may be employed; milk and barley-water, with citrate of soda and koumyss, may prove sufficient nutriment till some measure of appetite returns. Small quantities of iced champagne may prove useful. The question of withholding all salt from the food is worthy of consideration as soon as dropsical symptoms appear, and this plan may be tried. D. Duckworth (Practitioner, April, 1906).

HEMIPLEGIA, DOUBLE.

In brain syphilis, small microscopic foci of softening may occur in the cortex, the result, probably, of cutting off

of the blood-supply, and giving rise to hemiplegic symptoms and mental disturbances. Syphilitic inflammatory encephalitis, while described comparatively rarely, may occur, and is probably due to inflammation originating in the small vessels of the cortex by the syphilitic poison circulating in them. The change in the blood-vessels is not always uniform. Sometimes the adventitia is more intensely involved, and sometimes the intima. Double hemiplegia, if not uncommon, is certainly not frequently described. J. H. W. Rhein (American Journal Medical Sciences, May, 1906).

HEPATIC INSUFFICIENCY.

For clinical purposes the author states that three causes of hepatic insufficiency may be differentiated, remembering always that the three may be and usually are correlated and intimately connected: 1. The mechanical cause, such as sclerotic changes, causing overgrowth or contraction of interstitial liver-tissues, and thereby producing mechanical compression of liver-cells or of their different blood-vessels; mechanical stenosis, occlusion, or obliteration of large blood-vessels by embolism, thrombosis, or pressure from without. The bile-ducts of the liver may become narrowed. Finally, certain heart-lesions may produce stasis of venous blood in the capillaries of the liver. 2. Parasitic causes occupy an intermediary position between mechanical and toxic causes, as any microörganism which invades the liver-channels or the liver-tissues proper may act as a foreign body by mechanically destroying liver-cells, or it may lead to the formation of chemical poisons. 3. The toxins are manifold.

The treatment may be considered as causal treatment, or prophylaxis, or

symptomatic treatment. The latter must consist in dietetic and medical treatment. The author warns against the danger of operative interference in certain cases, as there is usually a tendency to hæmorrhage, and the administration of chloroform as an anæsthetic can lead to pernicious conditions. A. C. Croftan (Medical Record, April 28, 1906).

INFANT FEEDING, EMPLOYMENT OF CITRATE OF SODA IN.

The common cause of milk-dyspepsia is the density of the clot formed in the stomach. Among the poor, this leads to over-dilution or the use of condensed milk; among the well-to-do, it accounts for the widespread use of proprietary foods and the consequent lack of fresh food. Sodium citrate increases the digestibility of milk by lessening the amount of clot. By its use, milk can be given in a more concentrated form and over-dilution prevented. Because of its cheapness and simplicity, the method is available for the poor, and among the rich it provides a substitute for proprietary foods. There is no danger of scurvy or rickets. Its chief indications are (1) for correcting milk-dyspepsia, (2) for weaning a healthy infant to cow's milk. It is useful in adults when untreated milk is ill-borne, as in cases of gastric ulcer, gastritis, acute pneumonia, typhoid fever, etc. It is useless in severe gastro-enteritis, fat dyspepsia, when the milk is impure or adulterated, and in primary infantile atrophy. W. H. Wynn (Birmingham Medical Review, March, 1906).

INFLAMMATION, NEW VIEW IN REGARD TO.

Teachers of pathology nowadays are usually at considerable pains to impress

their pupils with a realization of what has been aptly termed the conservatism of inflammatory processes. The student is encouraged to believe that inflammatory changes do not of themselves constitute a primary state of disease, but rather that they are the consequence of an insult of one sort or another to the bodily machine and represent the effort of the organism to minimize the effects of the injury. While the sufferer from, say, a furuncle very naturally regards the local evidences of the disorder which are evident to his senses in the classical syndrome of pain, swelling, redness, and heat, as his chief cause of grievance against an unkind fate, the more perspicacious gaze of the pathologist views these manifestations as so many indices that the body is marshaling its resources in order to put to rout a horde of invading bacteria ensconced in some hair-follicle or similar recess. In brief, to use the words of a well-known writer, inflammation is regarded as the local attempt at repair of injury, and, though it may sometimes overshoot the mark and produce undesirable consequences, its purpose is, on the whole, beneficent and tends toward the welfare of the individual. That this point of view is a novel one, to the public at least, is shown by the astonishment evinced in the comments of the lay press on a recent address delivered by Sir Frederick Treves, in which the speaker dwelt upon the value of peritoneal or pleural adhesions, effusions in inflamed joints, etc., as means of facilitating the process of repair.

The principle involved in this view is a broad one and accords well with the demonstration of morbid histology as well as theories of immunity, cytolysis, etc. A recent writer, however, Spiess (Münchener medizinische Wochen-

schrift, February 20, 1906), presents some suggestions on the subject of inflammation in which these beneficial attributes of the several phenomena involved receive scant courtesy. Starting with the clinical observation that in cases of operation on the nose or throat in which all pain, both in the course of the procedure and during the period of healing, was suppressed by the very free use of local anæsthetics, no inflammatory reaction was noted, Spiess suggests that all manifestations of this nature are evoked purely by centripetal stimuli emanating from the point of injury, and if these are abolished no reaction can follow. In support of this belief he refers to the well-known immunity to inflammatory processes exhibited by patients with hysteria or anæsthesia due to mental disorders. Laparotomy wounds in the insane heal without complications, even though contaminated by the filthy hands of the patient; the Hindoo fakirs can perform their self-mutilations with impunity; and a patient of the author's, with hysterical anæsthesia, could plunge the hand into boiling water without giving rise to the ordinary accompaniments of a burn, if the act was performed during an access of anæsthesia. If sensation had begun to return, a scald was produced. Experiments on anæsthetized animals led the author to the same conclusion; that is, that inflammation does not follow if it is possible to cut off all centripetal impulses from an injured part, and that already-existing inflammations are caused to subside rapidly through anæsthetization of the inflammatory focus. The method of anæsthesia must affect only the sensory nerves, however, and should not interfere with the ordinary vasomotor mechanism. The success of Bier's method of treatment by hyper-

æmia is attributed by the author solely to the relief of pain that is secured by the procedure. Editorial (Medical Record, April 14, 1906).

INFLAMMATORY PROCESSES, TREATMENT OF, BY HYPERÆMIA.

In the course of a very detailed consideration of this subject, the writer arrives at the conclusion that Bier's method has only a restricted field of usefulness, and that its application demands a great deal of care to avoid doing more harm than good. He also considers that in all except the mildest cases it is necessary to make use of free incisions through the infiltrated areas. The modifications in the resorptive processes produced by the artificial hyperæmia are not a disadvantage in mild cases, but in more serious conditions incisions are necessary in order to protect the diseased tissues from the dangers of diminished absorption, and to avoid imperiling the body as a whole through the increased absorption following the removal of the bandage. The increase in protective bodies produced is of little importance as regards the antitoxic substances, is advantageous as far as the bactericidal bodies are concerned in mild cases, but is dangerous in the severer ones through the liberation of large amounts of endotoxins in consequence of the bacteriolysis which results. This disadvantage can be nullified only through extensive and early incisions. The increase in proteolytic ferments which accompanies the treatment is favorable in infected wounds, but the liquefaction of inflammatory exudations must be forestalled by early incisions, as otherwise important tissues may become necrotic or pus may burrow in the neighborhood. The increased transudation or exudation

which takes place during the congestion is injurious in closed or insufficiently-incised foci, owing to the distribution of poisons in the tissues, but is of value after incision or in infected wounds, through the mechanical washing out of infectious material that follows. The general conclusion is that the treatment by hyperæmia is suitable only for light cases; but that if the infection is at all severe early and extensive incisions must be made, to render the treatment safe and effective. Lexer (*Münchener medicinische Wochenschrift*, March 20, 1906; *Medical Record*, April 28, 1906).

INNOMINATE ANEURISM.

In innominate aneurism, if there are no threatening pressure-signs, one should always begin with careful medical treatment, by rest, regulated diet, and large doses of potassium iodide. After a short time of medical treatment, or earlier if there are threatening pressure-signs, simultaneous ligature of the right common carotid and right subclavian is the only operation to be recommended. The operation is somewhat dangerous, and should not be attempted with obliteration of the right carotid, which would give rise to cerebral trouble, or with dilatation or insufficiency of the aorta. The operation should be practiced at as early a date as possible, after a short time of medical treatment. Delay is dangerous, because more arteries may be occluded, and, besides, the older the aneurism, the better-developed the collateral circulation, and accordingly the less perfect exclusion of the sac from the circulation, and the less likely is a coagulation within it to occur. Should the operation fail, or the aneurism be too large to permit the ligation of one or both of these arteries, Mac-ewen's acupuncture should be given a

good trial, combined with the subcutaneous injection of gelatine every four to seven days. With the failure of the preceding measures, galvano-puncture, combined with medical treatment and protection of the sac from injury, is the last means at our disposal. G. G. MacDonald (*Practitioner*, May, 1906).

JOINT DISEASE, TREATMENT OF, BY PASSIVE CONGESTION.

The technic of the treatment of joint disease by passive congestion, as it has been developed by Bier, consists in the application of two or three turns of an Esmarch bandage about the limb above the affected joint. It should be applied just firmly enough to constrict the thin-walled veins, but not enough to obstruct the arteries, or if at all, only to a slight extent. The venous congestion thus induced extends not only through the superficial veins, but also to the deep ones. By means of more or less tight application of the band all grades of congestion can be induced, from the light up to the severe. The greatest care should be taken that the so-called hot congestion is always obtained, and that the congested limb is never cold to the touch. This form of congestion is used in most cases of acute and subacute joints, continuously with short interruptions, in the beginning, while later the intervals between congestion are made longer. The author has treated ten cases of joint disease which he reports, and he thinks that from this small number of cases it seems fair to conclude that passive congestion shortened the course of treatment of these diseased joints, and that by this means excellent results were obtained where in some the only outlook seemed to be operative interference. H. F. Hartwell (*Boston Medical and Surgical Journal*, May 3, 1906).

KIDNEY DISEASE, LAVAGE IN THE TREATMENT OF.

The writer declares that internal medication alone is not sufficient in treating many diseases of the kidneys, and earnestly recommends lavage of the kidneys as a safe and efficient adjuvant. Many stubborn cases of lithæmia quickly yield to this measure. In severe types of inflammatory lesion of the kidneys, alleviation is always possible, and complete cure may be accomplished. Fluids employed in lavage should be of proper temperature and injected slowly in small quantities. The strength should gradually be increased. Every precaution demanded in a major operation should be carefully observed in this manipulation. F. M. Johnson (*American Journal of Urology*, February, 1906).

KIDNEY FIXATION, ULTIMATE RESULTS OF.

The author states that movable kidneys can be permanently fixed by a proper technic. Undoubtedly many disturbances of digestion are caused by movable kidneys, probably by causing irritation of the sympathetic nervous system, perhaps of the solar plexus. Fixation of a loose kidney will relieve some digestive disturbances, and many of the nervous symptoms in this condition are relieved after a short time. A proper diagnosis must be made before operating, and the kidney found to be the cause of the trouble beyond any reasonable doubt. The fixation of a floating kidney cannot cure cancer of the stomach, remove gall-stones, subdue an inflamed appendix, nor dilate a constricted bowel. J. H. Carstens (*Journal of the American Medical Association*, May 12, 1906).

LARYNGEAL OEDEMA: TREATMENT.

In the acute primary involvement, cold compresses to the throat and leeches serve as external measures. Internally, a brisk purgative, or even emesis, will abstract some of the accumulating serum. Pellets of ice, steam with benzoin added, adrenalin by spray to larynx, and ten drops of the same solution every hour internally, are very important therapeutical agents. Venesection is of considerable value; scarification or puncture is of unquestionable value wherever it can be accomplished. The hypodermic injection of one-quarter grain of pilocarpine or iodine locally after cocainization has been advised. Tracheotomy is the one most effective measure. In those cases in which the œdema is secondary to abscess in a neighboring location, the evacuation of the pus will usually result in the disappearance of the œdema. Harmon Smith (*Medical Record*, April 21, 1906).

LYMPHOOCYTOSIS, ACTIVE.

The author defends his opinion, with which some authorities do not completely agree, concerning the functions and capacities of lymphocytes. All kinds of leucocytes are capable of passing out of vascular channels. It is undoubtedly true that the polynuclear cells (particularly the neutrophiles, but also the eosinophiles) possess a greater migratory power than the lymphocytes, but these last cells also possess the power of active migration. These different kinds of cells respond specifically to different chemiotactic stimuli. When infective organisms have been introduced into the body, there appear during the first twenty-four hours different forms of cells, which all arise from the hæmatopoietic system, and amongst these are to be included the adventitial

cells (the so-called "leucocytoid" cells and "polyblasts"). These cells are all the same in kind as the white corpuscles in the circulating blood, and may be divided into two groups, the one being represented by the granular polymorphonuclear leucocyte and the other by the basophile mononuclear lymphocyte. The fixed-tissue elements (epithelium, endothelium, connective-tissue cells, etc.) take no part during the first twenty-four hours in the formation of the exudate; they merely become swollen, as the expression either of commencing proliferation, or direct injury due to the action of the irritant which has been introduced. These changes are not associated with phagocytic properties, and when these cells are detached from their normal environment they at once perish. Wolff-Eisner (*Berliner klinische Wochenschrift*, Nos. 9 and 10, 1906; *British Medical Journal*, May 5, 1906).

MALARIA PLASMODIA, ACTION OF QUININE UPON.

From a study of the action of quinine upon the plasmodia of malaria, the writer concludes that this drug exercises an injurious effect upon the plasmodia during all stages of their human life-cycle, whether intracorporeal or extracorporeal, except when it is administered just prior to sporulation, at which time the sporulating body is not injured and sporulation occurs, but most of the spores are destroyed by the drug while they are free in the blood-plasma. The marked morphologic changes, degenerative in character, produced by quinine in all species of the malarial plasmodia, during all stages of their growth, prove that in order to secure the best therapeutic results the drug should be continually present in the blood, and this is only possible when it is adminis-

tered in divided doses at regular intervals of time. C. F. Craig (*American Medicine*, May, 1906).

MERCURIAL INTOXICATION, SIMPLE TEST FOR IMPENDING.

Existing or impending mercurial saturation can be revealed, according to the writer, by touching one or more of the teeth with fresh tincture of iodine. As the patient then wets the teeth with saliva, they turn pink in case of intolerance or saturation, while this does not occur when the mercurial treatment is being well tolerated. The mercury eliminated in the saliva combines with the iodine to form the red bi-iodide if the proportion in the saliva is excessive. The proportion eliminated in the saliva is minimal when the kidneys and other emunctories are working properly, and the test gives negative findings; but when the mercury is accumulating unduly in the system, this is revealed by the pink stain of the teeth after they have been touched with iodine. J. Severino (*Semaine Médicale*, Vol. xxvi., No. 16; *Journal of the American Medical Association*, May 19, 1906).

MIDDLE-EAR SUPPURATION, BIER TREATMENT IN.

The writer says that there is a diversity of opinion among otologists as to the value of Bier's treatment by hyperæmia in cases of acute suppurative otitis media, as well as in cases of acute mastoiditis, some favoring its use, while others absolutely condemn it. He reports the results he himself obtained in eighteen cases of acute suppurative conditions, and states that he believes the method will be of distinct value in otology. He employed two methods of producing the congestion—first, by means of a rubber neck bandage, and

secondly, by use of suction cups. In suppurative otitis media, the author believes that the treatment with the rubber bandage may be begun as soon as the diminution in the severity of the symptoms has begun under the influence of the ordinary treatment, as recovery may be hastened by the congestion treatment under these conditions. If alarming symptoms develop from the start, the congestive treatment should be employed at once in addition to the usual measures, without, however, deferring unduly operative intervention, should this seem necessary. In cases with involvement of the mastoid the author makes an incision and evacuates any pus that may be under the periosteum, and chisels a narrow passage to the antrum; a suction cup is then applied to the wound and allowed to remain for several hours. Large amounts of secretion are usually obtained, and the procedure is repeated for shorter periods of time on succeeding days. In cases without abscess, but in which there is swelling over the mastoid, with tenderness to pressure, a small skin-incision is made and an opening effected in the bone, though this need not penetrate the antrum. By the application of the suction cup the mastoid cells can be effectively drained of any secretion present. A. D. Stenger (*Deutsche medizinische Wochenschrift*, February 8, 1906; *The Post-Graduate*, May, 1906).

NEPHRITIS, TREATMENT OF.

The authors describe observations made in the treatment of nephritics by means of warm baths of considerable duration. The underlying idea was that by keeping the body under conditions which would as completely as possible exclude external vasomotor stimuli, a more equable circulation through the

kidneys would be secured. Experimental observations have shown that under ordinary conditions the alterations in volume of the kidney are very considerable, and it was supposed that renal excretion would be favorably influenced by a temporary elimination of these circulatory fluctuations. Observations were made on patients who for an hour and a half were placed in a bath having about the body temperature, and analyses of the urine were made before, during, and after the period of immersion. It was found that the effect of the measure was decidedly beneficial, the excretion of nitrogenous bodies and sodium chloride being greatly augmented, while the total volume of the urine also was considerably increased. The effect on the albumin excreted was less noticeable. The authors consider that the method has practical possibilities and suggest that one or two baths daily of from one to one and one-half hours' duration be tried in suitable cases. More prolonged immersion than this was found to yield less satisfactory results. Strasser and Blumenkranz (*Berliner klinische Wochenschrift*, April 2, 1906; *Medical Record*, April 28, 1906).

OCULAR INJURIES, TREATMENT OF.

Injuries of the eyelids and other ocular appendages seldom affect vision, infection rarely follows, wounds heal rapidly, and they are to be treated simply in accordance with the ordinary rules of surgery. This treatment may be carried out by any intelligent practitioner.

Superficial injuries of the cornea are more important. Infection frequently takes place, and then there is danger of a suppurative process, which may extend throughout the cornea, or even involve the whole eyeball. The early treatment, while somewhat technical, may be

conducted by the physician, and consists in removing foreign bodies, and using applications to prevent infection.

Penetrating wounds of the eyeball should always be approached with more or less concern. If not already infected at the time of the injury, they easily become infected afterward. Moreover, a foreign body may have been driven into the eye, which not only carries infection with it, but which in itself becomes, with rare exceptions, a certain cause of destructive inflammation.

In every punctured wound of the eyeball inflicted by a small, unseen object, there should always be a suspicion of the introduction of a foreign body. The diagnosis is often most difficult, and requires special appliances and experience. The removal of a foreign body from the interior of the eye is almost imperative to its salvation. Here, too, special equipment and special skill are demanded.

Infection, by whatever means it may be introduced, is the agent which destroys the injured eye, both by suppurative processes and by non-suppurative uveitis. In non-suppurative traumatic uveitis, the infection seems to be of a specific kind, and is transmissible to the uninjured eye, producing there a sympathetic uveitis, which is also destructive in its course.

Sympathetic inflammation does not develop until at least two weeks after the injury of the first eye. In the absence of a foreign body, or after its removal, the immediate treatment of a perforating wound consists in sterilizing the eye and its surroundings, freeing the wound of all incarcerated tissues, and closing it as perfectly as possible, or touching the opening with carbolic acid. Subsequently, sterilization should be

kept up as effectually as the circumstances will permit.

Infection should be combatted by intraocular disinfectants, and rendered dormant by the persistent and methodical application of cold over the eye. An eye that is hopelessly lost at the time of the injury should at once be excised, the operation for which may be performed by any informed practitioner. When an eye is affected with active traumatic uveitis, it should be enucleated within two weeks from the time of the injury, unless the eye has useful vision or may be given useful vision by some operative measures.

In wounds of the eyeball of all varieties, delays are dangerous, and if there is the slightest possibility of a foreign body being lodged within the eye, or if infective processes begin, the dangers to sight are so great that the services of a specialist should always be secured, if possible. A. A. Hubbell (New York State Journal of Medicine, April, 1906).

OZÆNA, TREATMENT OF.

In three cases of ozæna, adrenalin was used by the writer to secure contraction of the mucous membrane in order to examine the sinuses, and in each case caused an exacerbation of the malady. He thinks that the recrudescence was directly due to the action of the adrenalin for three reasons: (1) There is a great similarity between the appearance of a nasal mucosa well retracted by adrenalin and that seen in ozæna. Adrenalin often, also, causes an abnormal secretion. (2) The atrophy of ozæna, especially in early cases, is more apparent than real. In periods of least activity of symptoms, or after treatment, the signs of atrophy are often very sensibly diminished. (3) In states of grave intoxication, especially in tu-

berculosis, the nasal mucosa may show the atrophic aspect.

Since a vasoconstrictor had an unfavorable influence, the author determined to seek benefit from the local use of vasodilators. He found in three cases of ozaena great palliation resulted from the use of stovaine and dionine. In the first case, the patient had been obliged for six months to use a nasal douche of boric lotion twice daily, on account of the abundant foetid secretion. After a few days of treatment by means of a daily spray of a 1 per cent. solution of stovaine in glycerine and water, he was able to diminish the number of injections to one a fortnight. The foetid smell disappeared, and the good result had already been maintained for more than a year. In the second case, the injections, which had been necessary twice a week, were only needed once a fortnight after a short use of stovaine, and later of dionine. The third patient, who had been obliged to douche once every five or six days, was able to discard treatment for two months after the use of stovaine, but a nasal catarrh caused the crusts to form again. Royet (*Lyon Médical*, February 11, 1906; *British Medical Journal*, May 5, 1906).

PANNUS, NEW OPERATION FOR.

The operation described by the writer consists in causing an extravasation of blood into the subconjunctival tissue around the cornea. This, by its mechanical pressure and by acting as an irritant foreign body setting up a localized inflammation, causes the obliteration of the vessels which vascularize the cornea. The only instrument required is a small, sharp-pointed knife—a Beer's cataract knife does very well for the purpose. The point of the knife is passed through the conjunctiva at a distance of two to

three millimeters from the cornea and made to puncture one of the larger blood-vessels. The knife is then withdrawn. The conjunctival wound should be as small as possible, and made obliquely by holding the knife at an acute angle with that part of the surface of the eyeball which is being operated on. In this way there is no external hæmorrhage, but bleeding takes place into the subconjunctival tissues and is arrested automatically by the pressure of the extravasated blood on the blood-vessel walls. In like manner, many of the smaller vessels in the vicinity are mechanically closed. The mechanical action is increased by the formation of a coagulum, the fibrinous part of which shrinks and makes the whole mass smaller. By the time the blood-clot has disappeared, the blood-vessels in the cornea affected by the operation have shriveled up and the cornea has regained much of its transparency. The whole pannus may be treated in this way at one time, or the operation may be repeated from time to time, only a part of the pannus being treated each time. The latter is always advisable when the pannus is marked, as the inflammatory reaction is sometimes very severe and accompanied by a good deal of pain. Although the structures in the anterior part of the eyeball are all more or less affected by the inflammation, this is easily controlled, and subsides in a few days with the application of suitable remedies. W. Primrose (*Lancet*, April 21, 1906).

PERTUSSIS, DIAGNOSIS OF.

A general leucocytosis is present in almost all cases of whooping-cough. A lymphocytosis, i.e., an increase in the number of lymphocytes, is found in about 85 per cent. of cases at some time

during the course of the disease, and even more constantly during the early or catarrhal stage, over 90 per cent. showing the phenomenon at this time. A lymphocytosis is found usually in these conditions difficult to distinguish from whooping-cough. Therefore, the presence of lymphocytosis in a child with a hard, persistent cough is a factor of great diagnostic value. It is also of prophylactic importance, inasmuch as it can be utilized to prevent the spread of the disease by leading to the prompt isolation of the patient. The child's age must be taken into account in estimating the importance of the lymphocyte percentage. F. S. Churchill (*Journal of the American Medical Association*, May 19, 1906).

PLACENTA PRÆVIA, CÆSAREAN SECTION IN.

According to the writer, every pregnant woman should be examined during the sixth month to determine the presence or absence, and, if present, the degree of placenta prævia. The examination should be made bimanually, both by vagina and by rectum, and stethoscopically by the vagina and by the abdomen.

In case of central placenta prævia, elective Cæsarean section of Sænger type should be done at the moment of greatest viability of foetus compatible with least danger to mother. In case the foetus is dead and labor does not set in spontaneously, it should be induced after placental circulation is shut off.

In emergency cases, when the patient is not exsanguinated and a sufficiently experienced operator is at hand, the Sænger-Cæsarean section, with presumably clean or superficially infected uterus, should be done, and the Porro-Cæsarean operation if the uterus be positively and deeply infected. (A) In case

of total placenta prævia with (1) undilated and undilatable cervix; (2) cancerous or fibroid cervix, pelvic tumors, pelvic contraction, or other obstacle to the usual obstetric procedure; (3) ruptured sac, with escape of amniotic fluid and presenting but undescended head. (B) In cases of lateral placenta prævia with living child, uncontrollable bleeding, and either (1) undilatable cervix or other obstacle to the indicated obstetric procedure, or (2) ruptured and emptied sac with presenting but undescended head.

In elective cases, complete and thorough preparation should be made, and the operation systematically planned; distinct functions should be assigned to each assistant. In imperative emergency cases, the surgeon must operate with what may be at hand—scissors, hæmòstats, needles, thread, antiseptic, ether.

Hæmorrhage may be prevented by giving a full dose of ergot hypodermically ten minutes before beginning the operation, compressing the abdominal aorta as soon as the child is delivered, grasping the neck of the uterus low down with both hands and firmly compressing the uterine arteries, and by Faradic stimulation of the uterine muscle.

Shock may be obviated and relieved by preventing hæmorrhage; by rapid operation; by introducing physiologic salt-solution into the colon, connective tissue, blood-vessels, and abdomen; by hypodermic or intravenous injection of adrenalin chloride solution, and by compressing the abdominal aorta.

In the after-treatment, purgation should be avoided; colon injections of saline solution, from eight to sixteen ounces, may be given at intervals of from three to eight hours; the bowels may be moved by enemata (epsom salts,

two to four ounces; glycerine, three to six ounces; asafetida mixtures, fifteen to thirty ounces). On the first evidence of uterine infection, prompt and energetic measures of local disinfection should be instituted by means of antiseptic exosmosis and drainage. W. A. Briggs (*Journal of the American Medical Association*, May 12, 1906).

PULMONARY TUBERCULOSIS, EARLY DIAGNOSIS OF.

The points where resonance is impaired, in case of an incipient tuberculous process at the apex, have been studied by the author in the clinic, with subsequent post-mortem examinations. He has located six points where percussion is liable to reveal impairment of resonance, and this finding at even one of these points is extremely suspicious. Point 1 is one centimeter below the clavicle, at the junction of the inner third and outer two-thirds. Point 2 is the same distance above the clavicle, on the same vertical line. Point 3 is at the intersection of the acromio-mastoid line with a line uniting point 1 with point 4. The latter point is in the center of a line drawn from the acromion to the spinous process of the second dorsal vertebra, and is the only point on the back. Point 5 is one centimeter below the center of the clavicle, and point 6 is just inside the acromion and above the acromio-cervical line. They are numbered in the order of their importance. Percussion should be with the middle finger on the nail of the index finger horizontally, the patient seated or standing, the arms pendant. The percussion should be light and then heavy, and should be applied at symmetrical points on each side. The less the difference between the results of light and strong percussion at point 6, the greater the proba-

bility of a lesion of the apex. One case was diagnosed from this finding alone, and the autopsy confirmed the diagnosis. It is necessary to be skilled in the physiologic findings at these points, but this comparative percussion, combined with light topographic percussion of the apex, will early reveal not only a lesion at the apex, but also the pathologic anatomic condition of the parenchyma of the lung. M. Landolfi (*Semaine Médicale*, Vol. xxvi., No. 11; *Journal of the American Medical Association*, May 5, 1906).

PULMONARY TUBERCULOSIS, EARLY DIAGNOSIS AND AGGRESSIVE TREATMENT OF.

By waiting until the diagnosis of tuberculosis is proved by the demonstration of tubercle bacilli, those in charge of out-patient clinics are sometimes responsible for the death of the patient. Careful temperature-records by the patients themselves, the use of tuberculin, mensuration and spirometry assist in the recognition of the disease in the closed stage, *i.e.*, before bacilli appear in the sputum. Of supreme importance, both for the early diagnosis and efficient treatment of these cases, is an aggressive personal interest on the part of the physician in charge; he must himself take the initiative, educate and encourage the patient, and hustle for his future good, even when the patient himself is listless and indifferent. J. B. Hawes, 2d (*Boston Medical and Surgical Journal*, April 5, 1906).

PULMONARY TUBERCULOSIS, PATHS OF INFECTION IN.

The relative importance of the three possible routes by which tubercle bacilli may travel to the lungs, namely, the blood-stream, the lymphatic system, and

the respiratory tract, are discussed by the writer. He thinks that the danger of hæmatogenous infection through the placenta is commonly underestimated, and points out that Schmorl, in an examination of the placentas of 20 tuberculous women, found tuberculous nodules in 9 cases, or 45 per cent.; and a fact of particular significance is that these nodules were found not only in cases of miliary tuberculosis or advanced lung-disease, but also in a case of incipient phthisis. But these observations, though important, are not sufficient to justify the extravagant theory that infection with tuberculosis usually dates from the period of intra-uterine life. Infection of the lungs by way of the lymph-channels appears to be particularly common in infancy. In this connection the writer refers to the frequent swellings of the cervical glands in scrofulous children, and to the still more significant fact that in infantile tuberculosis the bronchial glands are almost invariably affected. There can be no doubt that in a considerable proportion of the cases of infantile pulmonary tuberculosis the infection has been introduced by the alimentary tract, and has been carried thence to the lungs by the lymphatic system; but the author does not go so far as to advocate the extreme view that the infant's lungs may not, in a certain proportion of cases, be directly infected by inhalation; and in the adult, where the bronchial glands are frequently less affected than in the child, the occurrence of direct infection by the respiratory tract is undoubtedly common. Fraenkel (*Deutsche medicinische Wochenschrift*, March 1, 1906; *British Medical Journal*, April 14, 1906).

RECTUM, CANCER OF THE.

After a critical review of the various methods that have been devised for high cancer of the rectum, the author describes the operation that he practices. It is a modified form of the Quenu operation, the tumor being attacked by the abdomino-perineal route. With the patient in a high Trendelenburg position, a median incision is made. The limits and relations of the tumor having been noted, the lower end of the sigmoid, at about the level of the sacral promontory, is divided between two clamps. The proximal end is brought out of the wound and closed with a purse-string suture. A gridiron incision is then made on the right side, as for an appendectomy, and the sutured end of the sigmoid is pulled through this opening and sutured in place, so that about three-fourths of an inch of the bowel is left projecting. The distal stump is now closed by inversion, and the bowel is carefully dissected away from the pelvic contents and sacrum down to about the point where the middle hæmorrhoidal vessels supply the rectum. The entire area is now packed with moist hot gauze and the patient is placed in the perineal position.

After closing the anus with a suture, a circular incision is made around the anal margin, and the rectum is dissected away from the prostate and urethra or the vagina up to the point where the dissection had been conducted above. An assistant passes the abdominal end through the perineum, and the whole is removed. The peritoneal denudation in the pelvis is closed as well as possible, with drainings through the perineum. The sigmoid trap is pulled down over the exposed surface, and in the female the uterus and broad ligaments are adjusted with

a few sutures to aid in covering. The abdominal wound is closed, and the perineal is narrowed to the proper dimensions. The end of the sigmoid is opened at the end of twenty-four hours.

The advantages of the operation are these: The radical removal it affords; the anus placed in a position that permits easy inspection and cleansing; the sigmoid trap obviates frequent stools, and the intermuscular incision gives a fair degree of control. Nineteen cases are reported by the writer, of which five died in the first month. Of four cases that passed the three-year limit, two are alive and well. W. J. Mayo (St. Paul Medical Journal, April, 1906).

RED BLOOD-CORPUSCLES OF MAN, FORM OF THE.

The author states that the majority, if not all, of the circulating cells are bell-shaped, and not biconcave. Their presence in the adult body, as well as that of the foetus, is shown by a study of the placenta. Their presence in the foetus and infant seems undoubted, as shown by their abundance and uniformity in shape and size in the fixed tissues. Upon contact with the air the bell-shape is changed to the biconcave, the result of collapse. This is shown by the fixation of blood that has not been exposed to the air, on the one hand, and blood that has been exposed, on the other. H. E. Radasch (American Journal Medical Sciences, May, 1906).

RESISTANT FORWARD SHOULDERS, A CLINICAL AND ANATOMICAL STUDY OF.

Resistant forward shoulders are symptomatic of anatomical conditions. The commonly accepted statement that tight pectoral muscles are the cause is not tenable. The most common factor

in forward shoulders is the tightness of the serratus muscle. An occasional factor, usually associated in extreme cases with the above, is shortness of the coraco-clavicular and acromio-clavicular ligaments, whereby the union of the clavicle and scapula is made so rigid as to prevent full backward and downward movements of the shoulders. Systematic examination of forward-shoulder cases is necessary in order to identify the definite causes of restriction of motion.

The early recognition and treatment of pronounced cases is important, since self-correction is unusual and the reflex moral effect is serious. When stretching and muscular development fail, it is possible to incise tight coraco-clavicular ligaments, and thus free the shoulder from rigid interference.

The term "round shoulders" is misleading. Forward shoulders (postural or resistant) is far more definite, but should be accompanied by a definite statement of the cause of resistance. G. W. Fitz (Boston Medical and Surgical Journal, April 19, 1906).

RICKETS.

The writer has sought to determine the relation of the incidence of rickets to the varying conditions under which the function of lactation is exercised, and to the duration of the exercise of this function. He studied two hundred children, dividing them into four classes, according to their early feeding: (a) Breast-feeding; reared wholly on the breast for from eight to twelve months. (b) Hyperlactation; reared wholly or mainly on the breast for over twelve months. (c) Mixed feeding; partly on the bottle, and partly on the breast. (d) Bottle-feeding; entirely on the bottle. He found that rickets was appreciably

more marked among children "breast-fed" for over eight months (including those with hyperlactation) than among other children, and as these breast-fed children were, in a large majority of cases, born of mothers who had undergone greater lactational strain, and as this lactational strain does only to a slight extent predispose the infant to rickets, consequently one is forced to consider the composition and fitness of the maternal milk in these cases. A. Dingwall-Fordyce (British Medical Journal, April 28, 1906).

STOMACH AND INTESTINES, MOVEMENTS OF THE.

In studying the movements of the stomach and intestines in some surgical conditions, animals were etherized usually one-half hour, operated upon, and subsequently fed food mixed with a small amount of subnitrate of bismuth. Fluoroscopic observations of the changes in the contents of the alimentary canal were then made by means of the Röntgen rays.

- After high intestinal section and suture, gastric peristalsis is not interfered with. But for almost six hours after recovery from the ether the pylorus remains tightly closed against the peristaltic pressure and does not permit the food to pass into the injured gut. There is a striking coincidence between the duration of the delay of the discharge from the stomach and the period of primary cementing of intestinal wounds.
- After end-to-end suture of the severed intestine no inefficiency of the gut in the region of suture was observed. But after lateral anastomosis there was always an accumulation of food in the chamber formed by the apposed loops. The cutting of the circular fibres in this operation destroys efficient peristalsis

at the junction unless the circular muscles of both loops work in coördination. As they do not so act, at least for days and probably for weeks following operation, lateral anastomosis is not so ideal an operation as the end-to-end union.

In case of intestinal obstruction, food leaves the stomach without delay. As it accumulates above the obstruction violent peristalsis repeatedly occurs, tending to force the food past the obstacle. The peristalsis alternates with vigorous segmenting movements. After such turbulent treatment the food has been observed moving swiftly backward to the stomach along the course traversed in its passage from the stomach to the region of obstruction.

After thrombosis and embolism there is usually no movement of stomach or intestine; the food lies quiet in the stomach until discharged by emesis. In one case gastric peristalsis was observed for some hours and a slight amount of food was discharged into the intestine, but it gathered above the infarcted region and was not advanced further.

In studying the conditions attending operation as possible causes of post-operative paralysis of the alimentary canal, etherization, one-half or one and a half hours, was found not to delay to any marked degree the discharge of food from the stomach; exposure to the air and unusual cooling of the gut likewise caused no noteworthy delay; but by far the most striking effects were seen after handling the digestive organs. Even with most gentle handling, within the peritoneal cavity or under warm salt solution, no gastric peristalsis was seen and no food left the stomach for three hours. Fingering gently in the air caused still greater retardation of the movement of the food. And with rough handling in air no food passed

the stomach for four hours, and then it emerged very slowly and was moved onward with every evidence of extreme sluggishness of the intestine. W. B. Cannon and F. F. Murphy (Annals of Surgery, April, 1906).

TÆNIA, TREATMENT OF.

Very favorable results have been obtained by the writer with the following method of treatment of tænia: The patient is put in bed, and for two, three, or, in some cases, four days, is given a diet consisting of beef-tea, two pints; Mason's essence, one tin; two rusks; and port wine, four ounces. During the same period the patient takes tabloids of cascara sagrada (two grains) three times a day. On the fourth day (usually) at 5 A.M., haustus sennæ co., one ounce; at 9 A.M., a capsule containing fifteen minims of the extract of male fern; at 9.15, ditto; at 9.30, ditto; at 9.45, ditto; at 11 A.M., haustus sennæ co., one ounce. If by 1 P.M. the worm has not been passed and the head found, a second course of treatment with male fern at intervals of fifteen minutes is begun; to be followed in an hour by a purgative draught. If the head is not found, a third course of treatment is prescribed. It is rarely advisable to continue the treatment beyond this without an interval of a day, as the patient may be somewhat exhausted. The chief points of difference between this and other modes of treatment are: (a) Complete rest in bed; (b) prolonged period of restricted diet; (c) giving the drug in divided doses, thus making sure that it will not miss the worm, and also avoiding the nauseous taste of the drug by giving it in capsules; and (d) searching for the head of the worm. In twenty-two cases, the head was found in seventeen, and a cure effected in two more—

86 per cent. in all. The male fern appeared to be just as effective against tænia medicocanellata as against tænia solium and bothriocephalus latus. J. K. Fowler (British Medical Journal, April 14, 1906).

TUBERCLE BACILLUS, PARASITISM OF THE.

From his studies on cattle, the writer finds that there are three main portals of entry of the tubercle bacillus into the system; the upper air-passages, the lungs, and the small intestines. Infection by other routes, such as the skin, is very exceptional. The lodgement in the lymph-nodes is accomplished without any apparent lesion whatever, and the nodes act as temporary barriers to the progress of the infection. The tendency is to the formation of a quiescent focus—the tubercle. There is probably some element in the blood that, together with the stimulating influence of the bacilli, provokes the protective-cell proliferation. The bacilli, when set free from a discharging focus, are provided with an inert protective envelope, which is destroyed by the normal-tissue fluids. When this happens they are able to multiply, but this multiplication stimulates cell proliferation, and, according to the activity of this process, multiplication is checked. The bacilli are destroyed in part; the rest, through the protecting influence of caseation, remain latent, provide themselves with the protective envelope, and, if discharged outward, are able to infect another individual. The question of the possibility of producing a specific artificial immunity toward the tubercle bacilli is discussed by the writer, who thinks the best results in protective inoculation will be obtained with the use of bacilli killed at a low temperature and from fresh cul-

tures, which can be made at any hospital or sanitarium. These can be injected locally, each injection forming a new radiating focus of immunity, and the fresh culture insuring a more effective preparation. The tendency of infectious diseases, the author holds, is toward a balanced parasitism, with reduced mortality, but not necessarily a reduced morbidity. This is due to selective adaptation of both the host and parasite, and this selection will, he believes, go much farther, and we may yet have a type of tubercle bacilli producing only a bronchitis. There are already some indications of this. The effect of a possible immunization of the human race is open to question. Immunization, the writer states, would be an admission that the germ has come to stay, and merely increasing our resistance to the prevailing type would lead eventually to the selective production of more virulent types and a slackening of the usual preventive measures that might eventually cause disastrous effects from the newly-developed more virulent organisms. Theobald Smith (*Journal of the American Medical Association*, April 28 and May 5, 1906).

URIC ACID, THE EFFECTS OF, ON THE GENITO-URINARY TRACT.

Uric acid is one of the normal end-products of proteid oxidation reduction. It is never present in any food-substances, or found in the blood. The antecedent proteid molecule from which uric acid is made is contained in the blood.

Uric acid is made in the renal cells by the oxidation reduction of the desulphurized proteid molecule. The proteid molecule is desulphurized in the epithelial cells of the gastric follicles and in

the hepatic cells. In gout, it is formed in protoplasmic structures other than renal cells, by a vicarious action by which the proteid molecule is oxidized at an abnormal point. It is absolutely necessary to have uric acid produced in the renal cells. When it is produced faster than it can be converted in the uriniferous tubules into a urate, it is overproduced.

The urate is produced by the action of the uric acid on the neutral phosphate, thus forming the urate and an acid phosphate. Sulphuric acid is formed in the epithelial cells of the kidneys from the proteid molecule. In the cavity of the stomach the sulphuric acid acts upon the sodium chloride, forming hydrochloric acid and sodium sulphate. The hydrochloric acid in the lumen of the intestine attacks the alkaline sodium phosphate, restoring the sodium chloride lost in the stomach and forming the neutral salt for the blood.

The three etiological factors causing overproduction of uric acid are defective oxygen supply, overfeeding, disturbances in the nervous mechanism. Uric acid is formed by oxidation reduction and not by synthesis. The intensity of the toxin transformed in the kidneys determines the character of the lesion.

The effects of the overproduced uric acid are renal hypertrophy, parenchymatous degeneration of the kidneys, and diffuse or interstitial transformation. The overproduced uric acid may cause a catarrhal condition of the pelves of the kidney, or a truly inflammatory process may result, and may act as a general irritant to the whole genito-urinary tract. Giving alkalis masks symptoms, but never removes the etiological factors, while the removal of the latter should be the main object of all therapeutics.

Overproduction of uric acid may aid in causing phosphatic as well as uric acid calculi. It may act as an irritant in solution, in its isolated crystalline form, or massed together in the form of a calculus. Its action on the genito-urinary

tract is always mechanical. The effects of the overproduced uric acid are often confounded with disturbances in metabolism that cause the overproduction. W. H. Porter (New York Medical Journal, May 12, 1906).

Book Reviews.

THE SUBCONSCIOUS. By Joseph Jastrow. Boston and New York: Houghton, Mifflin & Co., 1906.

Among the books presented for review is this one on a psychologic subject. While not strictly within our province, the contained matters bear so directly on the daily, often the most puzzling of our problems, that we are tempted to comment on it at length. The sanity of the mind and its processes is so intimately dependent upon integrity of the bodily functions that it may be assumed there is more or less derangement of cerebration whenever the normal progress of the bodily functions is definitely deranged. Knowledge of the fundamental processes of the body, physiology, is admittedly essential to acquire a just estimate of those abnormalities which the clinician is called upon to correct. It is pretty generally conceded that there is far too little exact practical information taught, or at least acquired, on the principles of growth, change, and function of organs other than the brain. There is even less attempted of the mind. Even when a short outline of mental disorders is given, as at some medical schools, the student is able to learn little of psychoses and neuroses. Yet it is just in this department that his mistakes are oftenest made. Prof. Jastrow has given us a small, concise book, in which he has undertaken a systematic exposition of subconscious function, showing its natural import, its comprehensive scope, in the familiar field of normal life and in the perplexing mazes of the abnormal.

The processes of mentality are set forth in plain, comprehensive illustrations and analogies. A few sentences will serve to show the directness of style.

"Incorporation, orientation, and initiative are subject to the fluctuations that beset all phases of the mental movement; their presence varies in terms of intimacy of the relations that they establish, and above all in explicitness."

"In the slighter deviations, a momentary confusion, the need of wider alertness, may intervene before the privilege" (of the full conscious action) "is rendered available; in the more serious ones, a real change of state, while in the most involved abnormalities, the privilege is regained but intermittently and upon the basis of strenuous reconstruction."

In discussing dissociation, the complexity of altered personality, he says: "It is in its application to the distorted growth and crippled impairment of personality that the principle of dissociation finds its most complex and, in a sense, crucial test. Such phenomena thrive in the instability of hysteria; and fundamentally hysteria is contracted personality. It is abnormal concentrateness of more enduring and systematic type, conditioned by functional disordering. The mental energy is deficient, enfeebled; the normal scope of mental concerns cannot be encompassed, and some phases must be sacrificed. The mental realm disintegrates by lack of centralized power to hold it together, something falls away by the shrinkage or withering of its connection with the vitalizing core—which is the maintenance of the personal life."

Again, in the conclusion, speaking of the application of evolutionary conceptions to the psychic realm: "Functions display their import as significantly in the issue of these dissolutions as in the manner of their upbuilding. Yet the paths of dissolution are inevitably

manifold and intricate. The emphasis of the evolutionary forces is toward a type, an adjusted standard; the means to this end is through diversity and variety,—a versatile experimentation with the many that are called, in order that the fittest may be chosen.”—J. M. T.

PSYCHIATRY. A Textbook for Students and Physicians. By Stewart Paton, M.D. J. B. Lippincott Co., Philadelphia, 1905.

The reviewer has taken pleasure in reading the book by Stewart Paton rather more carefully than some which come under observation. The invitation to do this is because of the exceeding clarity of the phrasing and the agreeable presentation of the subject, which is one ordinarily not read much by the general practitioner. There is little to criticise, as the author has, by reason of his position at the Johns Hopkins University, a constant need to familiarize himself with progress in this line, and to simplify it for presentation to students. His clinical opportunities at the Sheppard and Enoch Pratt Hospitals enable him to speak with authority on not only the clinical aspect, but that of morbid anatomy. Among the great merits of the book is its brevity. He fully recognizes a point which the reviewer has taken frequent opportunities to emphasize, that we must look to our physiology as it becomes morbid, and must recognize that disorders of the mind are dependent directly upon those of the body. Dr. Paton says: “Changes in consciousness, anomalies in the emotional life, impairment of volition, are merely expressions of a disturbance in equilibrium of the functions of the brain.” The arrangement is modern, the most simple form of present teaching. After the general introductory chapters, there follows a particularly full and clear one on symptoms of alienation. He gives lucid views on the psychoses, and then several chapters grouped under special types, *e.g.*, the dementia præcox group, dementia paralytica group, the epilepsy group, and the hysteria group, the neurasthenic and the psychasthenic states, etc. There is also a chapter on paranoia, and this is especially admirable, dealing clearly with a subject about which so much confusion exists. Indeed, any one who should possess this book, along with the one by Joseph Jastrow on the “Subconscious,” reviewed also this month, will be better able to grasp the principles of normal consciousness and those abnormalities with which the physician is constantly called upon to deal. As a comment on the whole matter, it is pertinent to remark that the practice of medicine would be held in much higher esteem by the community, and the usefulness of the practitioner would be vastly greater, if he were to take trouble to make himself familiar every little while with progress in this line, preferably from just such books as these. In this connection it is also well to recall the review presented two months ago of the book by Paul Dubois on the “Treatment of Psycho Neuroses,” which is one of extraordinary value. Indeed, no practitioner can do his full duty, however simple it may seem to be, without a fair knowledge of the facts contained in these three books.—J. M. T.

ATMOKAUSIS UND ZESTOKAUSIS. Die Behandlung mit hochgespanntem Wasserdampf in der Gynecologie. Von Dr. Ludwig Pincus. Zweite verbesserte Auflage, mit 33 Textfiguren und Tafeln. Wiesbaden, Verlag von J. F. Bergmann, 1906.

This second edition of Dr. Pincus's work on atmokausis and zestokausis is an elaborate and painstaking presentation of the present status of the treatment of uterine hæmorrhage by the injection of steam at a temperature of 110 to 115° C., for from 5 to 40 seconds, into the uterine cavity, by the employment of specially-devised apparatus. The author goes exhaustively into the early history of the use of boiling water and steam, and the development of vaporization for caustic and hæmostatic purposes, and traces it to the present more accurate and scientific methods as developed by him.

The book is divided into a general and a special section. In the former there are sections on the instrumental technic, on experimental studies, and on the anatomy of atmokausis and zestokausis. The special section deals of their clinical application. Here he describes minutely the preparation of the patient, of the instruments, and the method of application. The questions of narcosis, need of assistants, confinement to bed, the relation of atmokausis and zestokausis to curettage, the active therapeutic factors in the treatment, are all carefully considered.

A final chapter deals in the same thorough manner with the indications and contraindications for this treatment. The book is a valuable treatise on a therapeutic measure which must of necessity be limited to the relatively small number of cases in which uterine hæmorrhage is not controlled by the methods now in use. Such cases it will save from subjection to hysterectomy, a procedure often resorted to in the past for uncontrollable hæmorrhage.—T. A. E.

NATURE AND HEALTH. A Popular Treatise on the Hygiene of the Person and the Home. By Edward Curtis, A.M., M.D., Emeritus Professor of Therapeutics, etc., Columbia University. New York: Henry Holt & Co., 1906.

It would be agreeable, and perhaps profitable, to comment at length upon this excellent little book, whose cost, while not mentioned, is probably less than \$2.00, but our space must be reserved for those volumes which are the product of more elaborate thought. Nevertheless, it is a subject which particularly interests the reviewer, and he finds in this study vastly profitable methods, in not only overcoming, but forefending the organism from disorder and disease. There is an admirable degree of sanity on every page. That such a book should come from a professor of *materia medica* is particularly gratifying. For instance, under the heading "Drugging for Delectation," he says: "In all those who make habitual use of alcohol there follow serious degenerations, constitutional disease, physical, mental and moral, because, wholly apart from the degradation of drunkenness, there is a tendency, even in such drinkers as never are actually intoxicated, to lapse from the ethical plane of the temperate. The toper is not truthful, nor does he adhere to the highest sense of honor, as measured by the standard of self in anti-bottle days."—J. M. T.

Books and Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following books and monographs:—

"Handbook of Climatic Treatment." By William R. Huggard. The Macmillan Company, New York, 1906.—"On the Blood-glands as Pathogenic Factors in the Production of Diabetes and Obesity." By Arnold Lorand, Carlsbad, Austria, 1905.—"Prognosis in Tuberculosis of the Lungs." By Joseph Walsh, Philadelphia, 1906.—"Medication in Tuberculosis." By Joseph Walsh, Philadelphia, 1905.—"Results of the Open-air Treatment of Surgical Tuberculosis." By William Stewart Halsted, Baltimore, Md.—"Some Ophthalmological Phases of the Diseases of the Accessory Sinuses of the Nose." By Wm. Campbell Posey, Philadelphia, 1905.—"Recurrent Oculomotor Palsy, with a Report of a Case." By W. G. Spiller and W. C. Posey, Philadelphia, 1905.—"Some Observations upon the Non-operative Treatment of Squint; The Worth Amblyoscope." By W. C. Posey and H. M. Langdon, Philadelphia, 1904.—"Sarcoma of the Cerebellum; Sarcomatous Infiltration of the Spinal Pia." By F. X. Dercum, Philadelphia, 1906.—"On Spastic Paralysis and Syphilis of the Cord." By F. X. Dercum, Philadelphia, 1905.—"Mystic Medicine." By F. X. Dercum, Philadelphia, 1904.—"Dementia Præcox." By F. X. Dercum, Philadelphia, 1905.—"A Case of Multiple Cerebrospinal Sclerosis. With Remarks upon the Pathogenesis of the Affection." By F. X. Dercum and Alfred Gordon, Philadelphia, 1905.—"The Treatment of Insanity, with Special Reference to Extra-mural Cases." By F. X. Dercum, Philadelphia, 1905.—"Thyroid Metastasis to the Spine." By F. X. Dercum, Philadelphia, 1906.—"A Case of Trauma of the Foot of the Second Frontal Convolution, Followed by Ataxia, Nystagmus, and Epilepsy." By F. X. Dercum, Philadelphia, 1905.—"The Diagnosis of Neurasthenia." By F. X. Dercum, Philadelphia, 1906.—"Foreign Bodies in the Oesophagus, with Report of Cases." By Albert Vander Veer, Albany, N. Y., 1899.—"End Results in Surgery of the Kidney, Based on a Study of Ninety Cases, with One Hundred and

Twenty-three Operations." By Albert Vander Veer, Albany, 1905.—"Surgery of the Stomach, with Report of Cases." By Albert Vander Veer, Albany, 1903.—"A Study of the Etiology of Floating Kidney, with Suggestions Changing the Operative Technique of Nephropexy." By H. W. Longyear, Detroit, Mich., 1905.—"Cotarnine Hydrochloride in Uterine Bleeding." By H. J. Boldt, New York, 1905.—"Some Mastoid Instruments, and Some Appliances for Ear Work." By Frank Allport, Chicago, Ill., 1906.—"Certain Fee Table Items that Injure the General Practitioner." By D. W. Cathell, Baltimore, Md., 1906.—"Infant Feeding." By the Illinois State Board of Health. 1906.—"Enquête sur l'Alimentation d'une centaine d'Ouvriers et d'Employés Parisiens." By Par MM. L. Landouzy, Henri et Marcel Labbé, Paris, 1905.—"The Importance of the Sanitary Treatment of Sewage." By Samuel G. Dixon, 1906.

From the United States Department of Agriculture, the following: "Some Forms of Food Adulteration, and Simple Methods for their Detection." By W. D. Bigelow and B. J. Howard, 1906.—"Saccharine Sorghums for Forage." By Carleton R. Ball, 1906.—"Maple Sugar and Sirup." By W. F. Hubbard, 1906.—"Cereal Breakfast Foods." By C. D. Woods and H. Snyder, 1906.—"The Home Vegetable Garden." By W. R. Beattie, 1906.

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Sajous's Analytical Cyclopædia of Practical Medicine.

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Editorials.

DEPARTMENT IN CHARGE OF

J. MADISON TAYLOR, A.M., M.D.

SANATORIUM CARE FOR THE IMPECUNIOUS NEURASTHENIC.

YEARS of work, private and public, among the rich and the poor suffering from nervous diseases have persistently impressed upon us, not only the difference in our facilities for treating these two categories of nervous patients, but also the inadequacy of our methods for attaining anything like satisfactory results in either class. For

the rich we have manifold resources—trained nurses for home care, private rooms in general hospitals, sanatoriums in the city and in the country. For the poor, on the other hand, we have nothing; in the United States, not one single sanatorium for the care and treatment of the impecunious sufferer from nervous disease—and every destitute neurasthenic who consults us arouses in us a feeling of impotence which is, to say the least, depressing.

The care of the indigent, moneyless, needy classes suffering from functional nervous diseases is and has been a crux of medical practice. Home cure is out of the question; the entire atmosphere, made up of family noises and quarrels, and the unavoidable nagging and misunderstanding of the patient's condition, added to the insalubrious and unhygienic surroundings, are obstacles which render success impossible. And it is not right to keep such patients at home for any length of time, on account of the psychic contagion which such nervous, more especially hysterical, patients exert upon the healthy members of the immediate family. Removal from the usual surroundings is the first step toward success.

But where shall they be taken? Hospitals will not receive them, or, if they are prevailed upon to do so, are glad to be rid of them again in the shortest possible time. The cheapest of our existing sanatoriums is too expensive for these impecunious patients, and the aid of friends and relatives can never be counted upon for a sufficient length of time. Thus such a patient, with little money, goes first from physician to physician, then from dispensary to dispensary, always seeking for relief—never realizing it—until, unable to gain the simplest livelihood, he becomes an object of charity and a social bankrupt, and finally, as Moebius says, "if he has luck he becomes insane, for then the state must care for him."

Yet this problem is not a new one; the necessity for some form of care is acknowledged, and much has been written and spoken about it. Why has it been impossible to interest the general public in this question? Is it because this public has been so much occupied with the tuberculosis question that it has had no time to busy itself with other and perhaps quite as important conditions?

Without for one moment wishing to minimize the importance of the tuberculosis work, it should not be overlooked that the large and increasing group of nervous diseases is causing great injury to the masses, to the health of the nation. As Determann has so well put it, if the public will not be charitable, then at least let it care for these patients from selfish motives. Let us not deceive ourselves; insane asylums did not originate from motives of humanity and charity, but from motives of self-protection, and the rapidity with which the isolation of the tuberculous has become popular is explicable upon the same grounds. The personal fear of con-

tagion is a more potent factor than the sense of obligation toward the physical or nervous cripple.

There can be no question that sanatorium provision will have to be made for the poor and for the moderately-situated sufferers from a neurosis. But if this is to be done, shall such sanatorium be modeled after the existing ones for the well-to-do? Do these serve the purpose for which they were organized? Are our neurasthenics cured?

Every busy neurologist in a large city can answer this question. Daily he sees neurasthenics who have been through the gamut of treatment in and out of sanatoriums. Visual disturbances have been corrected, eye-muscles have been cut, splanchnoptosis has been adjusted by mechanical means and by surgical intervention, stomach disorders have been rectified, sanatorium treatment with massage, gymnastics, electrotherapy, hydrotherapy, the rest-cure, and medical discipline has been undergone—all without success. There must be some radical defect in our method. There is, and it is a fault which constitutes the chief objection to our existing sanatoriums, even if the matter of cost of sojourn be eliminated; this fault is the lack of facilities for concentration and endeavor.

The dominant principle of the successful treatment of neurasthenics must be proper occupation and proper work (Moebius), and this principle is met by none of our remedial institutions.

If a charitable institution upon sanatorium lines for the cure of patients suffering from nervous diseases is to be established, the question arises, Who is to be the founder of such institution, and What is to be its scope and effort? *A priori*, it could be said that the state, having acknowledged its responsibility in the cure of defectives of all kinds, should also intervene here; that the state cares for the insane, for the imbecile, for the epileptic, and even for the crippled in body, and should therefore also care for the borderline patient, the nervous invalid who is upon the brink of subversion, as also for the confirmed neurasthenic.

No doubt the state should be interested in the establishment of such a sanatorium, because the early and proper care of many functional nervous diseases restricts the development of insanity, and by just so much relieves the state from future care.

Yet it is hardly fair to expect state support, or even state aid, until the necessity for such sanatoriums and the public benefits accruing from their existence have been practically demonstrated; once this has been done, the state will be obliged to aid for its own protection. Until then, private benevolence will again have to be appealed to, and private benevolence will herein find a field, fallow, yet ready for fecundation.

The public, to whom we are to appeal for charitable help, is to-day better pre-

pared than ever before to aid in a movement for the cure and treatment of the large mass of impecunious and needy sufferers from nervous disorders; the public is beginning to recognize the necessity of such cure, and to appreciate that nervous diseases of all kinds have increased in an appalling manner as a result of the constantly augmenting and exhausting struggle for existence. The public knows that bodily and mental overstrain, worry, and emotional excitement, with or without congenital predisposition, lay the foundation for the nervous disorders known as "nervousness," or neurasthenia; it has learned that these conditions constitute actual disease, and that they represent affections which undermine the health of the community and rob the state of many of its best workers at an age when they should be most productive. But what the public does not know, and what it must be taught, is that the progress of these conditions can be checked, that workers can be retrieved by early and proper treatment; that this large proportion of society which has been rendered useless or deficient in consequence of nerve-exhaustion can again be rendered efficient, can be restored to economic health; but that this economic restitution is possible only in a properly equipped sanatorium in which the therapy consists in a combination of physical upbuilding by means of rest, physics, dietetic treatment, and above all, systematic gradual reëducation for coördinated occupation.

Such a sanatorium should have the impress of a small village or colony rather than that of an institution, and it should be of sufficient size, as regards territory and number of patients, to admit of effectual work with the requisite systematization and organization.

This is hardly the place to enter upon the various details of such organization, but the difficulties are not so great as might be imagined, inasmuch as we have good models for such sanatoriums in Haus Schönow, near Berlin, and in the Rasmühle, near Göttingen. In both of these establishments, as well as in that of Grohmann in Zürich, the principle, so appealingly yet so trenchantly enunciated by Mœbius in his writings upon the subject, of the *reëducation for work through work*, constitutes the foundation upon which they stand; and they have all existed sufficiently long to have put this principle to a practical test. There, as we have had occasion to observe personally, the majority of patients work regularly, attentively, and successfully. Every patient is made to understand from the beginning that the work which is given him is a therapeutic measure and that the work which he executes is of benefit, not only to himself, but to the undertaking as a whole. Thus from the start are remedial and altruistic principles instilled, psychic as well as physical influence exercised.

The difficulties of organizing this work are manifold and manifest, yet less opposition to such work has been encountered among the patients than would be expected. The patients are recruited from all classes and conditions, and both sexes

are received; the school-teacher, the bookkeeper, the musician, the mechanic, and the broken-down business man will be found here side by side, and the work in itself effaces the difference in station and is conducive to the removal of all prejudices.

Much tact and patience are required in surmounting the obstacles which arise in carrying out this occupation therapy and in the selection of the proper patient for the proper work. Indeed, herein everything depends upon the physician in charge, who must devote his entire time to the institution, and must be counsellor, friend, and arbiter, while at the same time being supported by a corps of capable, intelligent assistants, schooled leaders, teachers, and superintendents in the various fields of industrial occupation.

And it is not easy to determine who should work and who should not, how much work is to be apportioned to one and how little to another. The patient who has broken down in consequence of excessive work is exhausted and must rest; this rest is, however, not to be unduly prolonged. As soon as the patient has rested sufficiently, when work causes normal fatigue and no longer exhausts, the time has arrived to begin with proper occupation, an occupation which is different from the one which has been a factor in the patient's breakdown, and always a comparatively easy one. The form of work should be one which will show results, for, as Hall has well said, "occupation without actual results is not only vain, but is actually depressing," and it should be work which is of direct value to the institution. For this reason, the work which will be preferred is that which is done in the field, in the garden, and on the farm, together with carpentering, wallpapering, and book-binding. Hall has established a practical shop for the manufacture of pottery and for the production of fabrics by means of hand-weaving. He has recently introduced basket-making, and he says that these three crafts have so completely filled the requirements that nothing else has been attempted. But his "school" is still in its infancy; for once such an institution is in complete running order, as are the European ones, workers of all kinds, blacksmiths, cabinetmakers, shoemakers, tailors, hatmakers, painters, masons, etc., will find fruitful occupation. The majority of repairs in and about the house can be made, simple buildings can be erected, roads laid out, and live stock cared for—all by patients.

The proper work for the female patient is not so easily found. The various domestic duties, such as sewing, clothes repairing, washing, and kitchen work, while useful, do not in all cases arouse sufficient interest; even garden work and care of the poultry do not supply the proper outlet; but if to these mat-making, scroll-sawing, burned-wood work, photography, etc., be added, ample occupation of a satisfactory kind may be found.

Dr. Blumer, in the Butler Hospital, has solved the problem satisfactorily for his class of patients by opening a handicraft shop in which hand-weaving on Spanish

looms, basket work in willow and rattan, and wood-carving are taught by competent instructors.

This instruction for both sexes in all branches of work is indispensable, and the supervision by thoroughly trained artisans in the various fields is a most important element leading to success.

All in all, the sanatorium should be a school, one in which a new trade or profession is inculcated by means of which the patients become theoretically and practically able to compete, partially at any rate, with others in the same line, and also in which the correct mode of simple living in all its significance is so instilled into them that it becomes a part of themselves. But, as has already been said, work is not everything, and in addition to the facilities for work every other method of treatment found in a well-organized sanatorium must be there employed, as well as the varied facilities for diversion, sports of all kind, and subjects of occupation for long winter evenings.

The success or failure of such a sanatorium will depend, not only upon the method of treatment, but to as great an extent upon a careful selection of cases. Admissible are, above all, those suffering from nervousness, the nervously exhausted, the neurasthenic. The conception of neurasthenia being a very elastic one, care will have to be taken not to admit patients in whom the mental symptoms predominate, who are over the border line, for it must be apparent that the danger of such a sanatorium developing into an asylum for the mildly insane is great. Cases of insanity, epilepsy, and severe alcohol or drug addiction must under all circumstances be refused.

The strictly medical diagnosis alone cannot guide us in the admission of patients, but the practical viewpoint must also be considered. For this reason Huber's restriction seems to be significant; according to him, patients suitable for reception must enter voluntarily with the expressed desire for medical treatment, they must have full consciousness and recognition of their illness, and have perfect control over their own actions in order to be able to follow medical instructions; they must not require watching, and must not appear abnormal to their fellows or infringe upon their rights.

A small hospital for the treatment of diseases arising among the sanatorium patients is indispensable, and it is even questionable whether a more extended reception of patients with organic nervous diseases into a hospital thus connected would not be feasible and even advisable.

As has already been stated, the propaganda for the establishment of such sanatorium care for the masses has already borne fruit. In Germany Haus Schönow, at Zehlendorf, near Berlin, was the culmination of Moebius's efforts, and was opened in 1899 with a gift of the land and 250,000 marks. When we visited it

last summer it was full to excess, and every vacancy was instantly occupied. It is in charge of Professor Laehr, to whose individuality and forceful personality it owes its entire success. In 1902 the second institution was founded, near Göttingen (Hanover), and it is known as "the Rasemuhle." This place owes its origin to the efforts of Professor Cramer, who was able to interest the state and cause it to assume this obligation and thus to acknowledge its duty to its wards. This is the only existing institution founded by the state.

Under way, abroad, are the "Colonie Friedau" in Switzerland, one in Sachsen-Weimar, one in Hesse, and one in the Rhine province, and the city of Frankfort has given 400,000 marks for the establishment of a cottage colony for nervous diseases.

Here in the United States, Dr. Herbert J. Hall, of Marblehead, Mass., is the pioneer in a small way of this movement, and it surely will not be long ere the demand will be great for the creation of such people's sanatoriums.

Not that the movement will ever assume the dimensions of that for the cure of the tuberculous; yet, when it is considered that there are assumed to be one-tenth as many sufferers from nervous diseases as there are tuberculous, it is not amiss to predict the establishment of at least one in each state. It must be clear to every one versed in the subject that something upon a large scale must be done in the United States for the impecunious and poorly situated sufferers from nervous disease, inasmuch as the existing impossibility for such persons obtaining proper treatment is a reproach to the charity organization of the country.

GEORGE W. JACOBY, M. D.

A FEW WORDS ABOUT INSANITY.

THE family doctor sees more of the beginning of insanity than does the alienist. The latter is usually called only when the disease is fully established, or at least so far on its course that no doubt remains of the existence of mental aberration. Unfortunately, so little time can be given to the study of insanity in the medical colleges that physicians, for the most part, must teach themselves after they begin to practice, and it is only after years and after having made many mistakes that they begin to have any clear and accurate knowledge of how insanity manifests itself. Fortunately, the colleges have begun to rectify the evil of lack of instruction, but it will be years before proper training can be given, and in the meanwhile the average physician will be compelled to continue to learn in the rough school of personal experience. Hence errors in diagnosis and treatment are not infrequent. I am asked to write very briefly about a few important ones.

The following are among the common errors: To regard the beginning of

paresis as merely neurasthenia; to mistake the delirium of some acute fever or septic process for insanity; to think that what is really adolescent insanity is a mere manifestation of hysteria; and to look upon dangerous paranoiacs as mere harmless cranks.

It is the rarest thing for insanity to be sudden in onset. Paresis and paranoia never are. The insanity following the acute infectious fevers and childbirth is always rapid in oncoming, but even acute mania presents prodromal symptoms, extending, it may be, over many days. The physician, it is true, is usually called in a great hurry, but this is because he is rarely called until some sudden outburst has occurred, or the patient has committed some act entirely at variance with the common conduct of men and women. If now inquiry be made into his recent history, it will be found that there has been a gradual deterioration in both mind and morals. It is these changes that are often supposed to be mere neurasthenia, mere nervous prostration, in popular language. The differential diagnosis is, as a rule, not hard to make, provided one remembers some fundamental facts. In neurasthenia there is never decrease in the moral sense. Late in the disease there may be increase in selfishness, but that is all. In paresis moral defect begins as soon as, and sometimes appears before, any mental deficiency. In neurasthenia there is never a loss of the sense of shame; in paresis, shamelessness in feeling, if not in conduct, is present from the start. In paresis there is a rapid increase in egotism, and soon the world is egocentric. This never occurs in neurasthenia. In neurasthenia, power of continuous application decreases, but there is no or little loss of intellectual good judgment. The neurasthenic cannot carry on a process of thought for any long time, but, though he may be able to think for only a few minutes, yet during those minutes of thought his processes of thought are carried on normally. The paretic has not only decrease in power of thought, but aberration of method. The neurasthenic never has delusions. He may be fearful of the future, have a sense of impending evil, doubt whether he may not go insane, but he will never be elated, never boast, and never have delusions of grandeur. The paretic, as a rule, has all these. He may, it is true, pass through the whole course of his disease to death with no delusions, with nothing but progressive dementia, and the physical signs; but such cases are rare, and in them, as in others, the physical signs are always present. In neurasthenia there are never signs of organic disease of the brain and cord—never Argyll-Robertson pupil, absent or spastic knee-jerks, true ankle clonus, scanning speech, ataxic, or paralytic or spastic gait, convulsive or apopleptic attacks. Many and sometimes all of these appear in paresis. Some are almost always present as soon as any supposed neurasthenic symptoms are discovered. The common early physical signs are disturbances in the pupillary reactions, marked changes in the knee-jerks, and slight difficulty in articulation, brought

out, it may be, only on using some test word. Every supposed neurasthenic should be carefully examined for signs of organic nervous disease, and if such be found the diagnosis needs revision. The matter is important, because to send a paretic globe-trotting, to let him attend to business or take any responsibility, indeed to let him be a free agent at all, means to hasten inevitable disaster to himself and possibly to his family. Fortunes have been lost, crimes committed, homes wrecked, because doctors have not been called, or doctors have not known.

The only evil that is likely to result from mistaking the delirium of fever or a septic process for insanity is that it may result in sending a patient to an insane asylum when there is no need, thus, in the present frame of mind of the public, casting a slur upon the patient's reputation and casting also a shadow on the patient himself, he having for the rest of his life the feeling that he has been insane and may hence again become so. These evils are not trifling. A working man or woman who has been in an asylum finds it difficult to get work when he comes out, and even the most broad-minded of people look a little askance on an acquaintance who has been in an asylum. The only way to avoid the error is to remember that many acute fevers can produce mental symptoms, confusional in type, from the start, and that these mental symptoms may mask the physical disease. Look always for the signs of typhoid fever or pneumonia, and remember that high fever is not a symptom of acute mania. Look out also for local foci of pus.

The differential diagnosis of hysteria and the insanity of adolescence is not always easy. Confounding one with the other would not lead to serious results, since the same treatment is required in both, if all physicians realized that hysteria is not a mere trifling ailment, but one of the severest diseases. Unfortunately there is quite a widespread opinion that hysteria is mere willfulness and is to be cured by neglect. Really, hysteria is the result of congenital defect, producing aberrant mental and emotional development. This defect can often be overcome, or at least its results prevented, by wise education, but too often the training of a boy or girl predestined to hysteria is in the hands of a hysteric mother or degenerate father. Frequently a boy or girl at the beginning of an attack of acute insanity is talked at and scolded, and told there is nothing the matter, instead of being separated from the family and given an outdoor country life or bed-rest, as one or the other may be needed. When a youth begins to show changes of manner and character, to be listless, to wish to be alone, to talk about not being treated right, to be vaguely suspicious of his parents or brothers and sisters, to make queer remarks, to sleep badly, and to lose appetite and manners, he needs to be treated as a seriously ill person. As always, it is the fact of the change in manners, conduct and thought, as much as the symptoms themselves, which is significant. Many youths are dull and stupid, easily annoyed, selfish, and hard to control from

childhood on. Such are, of course, neither getting insanity nor hysteria. But if a boy or girl formerly of average character begins to change, it is a danger signal. As to the differential diagnosis of hysteria and adolescent insanity, the difficulty lies in the fact that neither condition has a clear-cut and definite boundary line, but each merges into the other. Really, hysteria is itself a mental disease. It is best to confine the term hysteria to cases in which there are hysteric palsies, anæsthesias, special sense disturbances and convulsions. As to treatment, both need instant and complete separation from home and family, and, after a shorter or longer rest-cure, outdoor life and exercise and mental and emotional quiet. Every adolescent who has survived and apparently recovered from an attack of hysteria or insanity needs the wisest care for years, needs the quiet, not the strenuous life.

No type of insanity leads to as serious and frequent legal trouble as paranoia. This arises from the popular opinion that the insane are and must be irrational in all their acts; that if a man does any sane thing, therefore he is sane, even if other acts are irrational. Thus it is common to hear some one say so-and-so cannot be crazy, because he did thus and so, mentioning some sensible things he did. As a matter of fact, many insane people do sane things every day, every hour; otherwise it would be impossible to manage hospitals for their care without employing as many or more attendants than patients. The evidently maniacal and entirely demented alone never show evidence of sane motives in conduct. The test is, is any of his conduct that of an insane man, not, is some of his conduct normal? The paranoiac is particularly apt at deceiving the observer, because so much of his conduct and speech and manner is seemingly normal. I do not mean that he is a monomaniac or only partially insane. He is not. No man can be only partly insane, notwithstanding the dogmatic assertion of certain jurists who, knowing nothing of men and women, and still less of psychology, are so enmeshed in the thick web of a traditional metaphysics that they cannot escape. The paranoiac is very prone to have one great delusion or a group of related delusions around which his mental life centers. Often early in the disease he knows that the world will regard him as insane if he talk about them, and he will therefore deny their existence. He may reason quite well on matters unconnected with his delusions, and it is this which deceives the observer. A study of such a man will, however, always reveal intense egotism and vanity and real mental weakness, though there may be apparent strength. He explains his delusions and reasons about them, in this being unlike the paretic. A safe rule is to confine every one who has delusions of persecution, whether he has classical paranoia or not. The paranoiac is especially prone to criminal acts, because he knows no law save his own desires, has no doubt of the correctness of his opinion, and is sure of the greatness of his own mental powers.

CHARLES W. BURR.

THE DIAGNOSIS OF DIPHThERIA.

WITH ESPECIAL REFERENCE TO BACTERIOLOGICAL DIFFERENTIATION.

BEFORE the discovery of the Klebs-Löffler bacilli, clinical data were necessarily the sole reliance of the physician in recognizing the various forms of sore throat. When a membrane was present the case was considered diphtheria, and, except in epidemics, all cases not showing the membrane were diagnosed as tonsillitis or simple sore throat. The widespread use of throat-cultures by individual physicians and by boards of health has simplified the diagnosis of diphtheria and has brought about the adoption of new methods for regulating quarantine. The result of the culture is made the final court of appeal in all doubtful cases. At first thought this seems a delightfully simple and easy arrangement, but those who have been engaged in laboratory work, or have been studying diphtheria from a clinical standpoint, appreciate the fact that perplexing questions are constantly arising, as regards both diagnosis and the regulation of quarantine.

A number of these problems have been discussed recently in a most interesting way by Robert Scheller (*Centralblatt für Bakteriologie*, etc., I. Abt. Originale, 1905, xl., 1), a worker in the Hygienic Institute at Königsberg, where the conditions are similar to those in most of our cities. He gives the results of investigations made in connection with the examination of over 5000 cultures. The culture-outfit supplied to the physicians consisted of sterilized swabs with directions. The inoculation of blood-serum was made at the laboratory. Preparations directly from the swab gave information of little value, as sometimes numerous diphtheria bacilli were found in the culture, although none had been seen in the preparation made directly from the swab; and, on the other hand, the direct preparations at times showed granular bacilli very much like diphtheria bacilli, but which were probably harmless mouth-organisms, as they did not subsequently appear in the culture. Occasionally successful preparations were obtained from four-hour cultures, but it was often impossible at this time to obtain the typical granule staining which is considered one of the most important staining characteristics of the diphtheria bacilli. The chances of obtaining good results are better with older cultures. In one case the author noted that, while after ten hours' growth only diplococci and streptococci were found, the next morning diphtheria bacilli were seen in larger numbers than any other organism. Various factors were found to affect the rapidity of the growth of the diphtheria bacilli. If the growth was slow and scanty, it was considered quite probable that disinfectants had been used in the throat just previous to the taking of the culture. Exposure of inoculated swabs or cultures to unfavorable influences, such as light or heat, also modified the growth.

A comparison was made between the clinical and the bacteriological diagnoses in 2982 cases. In 70 per cent. they were the same. As in certain cases the presence of a membrane and of other clinical symptoms of diphtheria was found to be due to organisms other than the diphtheria bacillus, physicians were advised to isolate at once cases clinically diphtheria, but not to put them with other diphtheria patients until the diagnosis was confirmed by culture.

In cultures from certain cases of true diphtheria no bacilli were found, even on careful and repeated examinations. This was believed to result either from the way the swab was applied to the throat, the unusual situation of the diphtheritic process, or from the previous use of disinfectants. Other factors affecting the growth of the bacteria unfavorably were found to be long exposure of the tubes, after inoculation, to the action of light, or the keeping of them for a long time in a very warm place.

Of the cases diagnosed clinically as diphtheria in the absence of membrane, 37 per cent. gave positive cultures. The principal reason for the diagnosis in these cases was the presence of an epidemic. Such mild cases were found to be capable of spreading the disease, and cases derived from them were frequently severe and showed all the typical symptoms of the disease.

There were 339 persons from whom cultures were taken during convalescence. Diphtheria bacilli had disappeared within ten days from the cultures of 22 per cent. They were still found after ten days in 77 per cent., after forty-one days in 10 per cent., and after ninety days in 2 per cent. The actual conditions are not fully represented even by these figures. Certain of the cultures were the first ones made during convalescence, and, although they were positive, no other cultures were made, so that it is impossible to say how long these persons continued to harbor diphtheria bacilli.

Sometimes, in spite of one or two negative cultures, a third culture again showed the organism. This was explained by the fact that the pharynx may be rendered completely free of diphtheria bacilli by the frequent use of disinfectants, and yet they may keep on growing in the accessory sinuses and in the posterior nares, ready to develop again in the pharynx and anterior nares when the opportunity offers.

Nasal diphtheria was found to be more common than is generally supposed. Diphtheria was frequently followed by a nasal catarrh lasting for some time, and due to the continued presence of the diphtheria bacilli in the nose. On the other hand, many cases began with a mild coryza and were first recognized as diphtheria upon the occurrence of typical throat symptoms.

The cultures were found to be of great help in diagnosing cases seen for the first time during convalescence, when all acute symptoms had disappeared. It is,

of course, very important from a public-health standpoint that such cases should be recognized and isolated.

The use of local disinfectants, especially hydrogen peroxide, was recommended as of some value in shortening the time during which diphtheria bacilli persist in the throat and nose. Well persons and physicians who come in contact with diphtheria patients should thoroughly disinfect their throats and nasal passages by similar means, both to lessen the danger of spreading the disease and to protect themselves.

It was found that 37 per cent. of the cultures taken from healthy individuals belonging to infected families showed the presence of diphtheria bacilli. Certain families were studied very carefully and the conclusion was reached that sooner or later diphtheria bacilli may be found in cultures from every member of a family in which a case of diphtheria occurs. They are especially likely to be found during the convalescence of the patient, when the rigid precautions taken earlier are neglected.

A number of cultures were made from healthy persons who had not been exposed to diphtheria, but in none of these cultures could diphtheria bacilli be demonstrated.

Pseudodiphtheria bacilli were only occasionally found in the cultures, and as a rule could be readily distinguished from the genuine diphtheria bacilli.

Scheller's conclusions are in harmony with those of most other laboratory and clinical workers who have recently been engaged in the study of diphtheria, whether abroad or in this country. The morphology of the diphtheria bacillus and the significance of various types have been carefully investigated by Westbrook, Wilson, McDaniel, Hill, and other workers. Gorham, Williams, Park, Denny, the writer, and others have studied various aspects of the question of diagnosis and quarantine. The Massachusetts Association of Boards of Health (Journal of the Massachusetts Association of Boards of Health, July, 1902), has published a report on diphtheria bacilli in well persons. Their investigators found typical diphtheria bacilli present in cultures from between 1 and 2 per cent. of healthy people who had not recently been exposed to diphtheria.

The views regarding the bacteriological diagnosis of diphtheria now generally accepted are: A positive report from a throat culture is not an infallible proof that the patient has diphtheria; on the other hand, a negative report does not exclude the presence of the disease. In cultures from cases of genuine diphtheria the bacilli cannot always be found; their growth may have been interfered with by the previous use of local disinfectants, by long exposure of the culture-outfit to light, heat, or other unfavorable influences, or the situation of the local process may be such that it is not readily accessible to the swab.

True diphtheria bacilli may occasionally be found in cultures from persons who do not have the disease. The vast majority of these persons have recently been in contact with diphtheria patients.

There is no definite, typical clinical picture by which a correct diagnosis of diphtheria may be suggested in all cases. The presence of a membrane in the throat, together with the usual symptoms of diphtheria, does not establish the diagnosis, as such a condition may be due to streptococcic infection or to other causes. It is, however, unwise to wait for the result of the culture before administering antitoxin in suspicious cases. All such cases should be at once isolated, but not placed with other diphtheria cases until the diagnosis is confirmed by culture. Affections of the throat resembling follicular tonsillitis or simple sore throat may be in reality caused by the diphtheria bacillus.

The bacilli persist in the cultures from diphtheria patients for varying lengths of time during convalescence. They rarely disappear within ten days, and may remain in accessory sinuses and other out-of-the-way nooks for a year or more. A single negative culture does not demonstrate their absence, and usually repeated cultures should be made. Healthy persons in the families of diphtheria patients nearly always harbor the diphtheria bacilli at some time during his illness. Physicians and others who come in contact with diphtheria patients can lessen the danger of spreading the infection by the use of local disinfectants.

These various factors in the diagnosis of diphtheria and its regulation from a public-health standpoint should be recognized by physicians. The bacteriological diagnosis of diphtheria is not by itself infallible. The laboratory worker cannot say that the patient has or has not diphtheria. He can simply report whether diphtheria bacilli are found in the culture, and whether they are virulent. The physician should recognize both the value and the limitations of laboratory tests, and give the report its due weight in connection with other clinical data. If this is done, it will be found that the bacteriological test is of much value to the physician in making correct diagnoses of diphtheria and that its help is at least as great as that furnished by any single clinical symptom.

ARTHUR T. LAIRD.

AIR POLLUTION.

PREVENTIVE medicine is the true prerogative and objective of our profession. Our duties to the community begin with, and never cease to include, defensive measures against all bodily perils which perpetually assail. Some of them are readily preventable, especially those which are the outcome of gross, obvious carelessness of unthinking or selfish people. There is no excuse for sins of omission, particularly when patent to ordinary intelligent observation or clearly pointed out by experts. That por-

tion of the people who are uneducated in the principles of hygiene can very well see and provide relief for much of the hurtful or dangerous conditions which invite attention, and we physicians may rely for coöperation to a certain extent upon the good sense which resides in any community. It is upon those of us who are equipped by education and experience that commonwealths and states must depend to regulate the conditions which make for a continuance of that collective and individual health which is the basis of all economics. Laws are made, in most communities, regulating "nuisances," acts overt or passive, which distress or injure, mar comfort or health or both. These laws are usually of ample scope and particularity to cover the chief offensivenesses, but too often they are permitted to become small or of no effect, chiefly by the apathy of the people. The tribunal, the court of appeal, is primarily a board of health appointed by the municipal authorities. Next are courts of law.

In America we are provided with ample legal safeguards, special enactments, which can be invoked. Such, however, is our hurry, our absorption in our private affairs, that it frequently happens we become indifferent to infringements on our clearly defined, as well as our ethical rights. Hence, we suffer, especially in cities and towns, from numerous preventable sources of irritation, strain, impairment of that reasonable degree of tranquility essential to full health.

Among the worst, most flagrant of these, is pollution of the air we breathe. Inasmuch as animals, which we are, depend for integrity upon "anima," the breath of life, hence if this is vitiated by smoke, noxious gases, effluvia, asphalt dust, gritty particles suspended in the air from unconsumed coal, or crushed rock, a blow is struck at the very foundation of our being. Of secondary importance is noise—excessive sounds made by the rushing of heavy trolley cars thundering along our streets, jarring our houses night and day, ear-splitting whistles of locomotives, steamboats, shown repeatedly to be practically useless, mere archaic conveniences of trainmen or pilots. In Boston this noise nuisance is reduced by laws to a minimum. Let us confine our attention here to the hurtfulness of one item, viz., the smoke nuisance, which has grown worse, not less, as "civilization" advances. Recent labor troubles in the anthracite region have made it convenient, rather more economic, to use bituminous coal in locomotives, in factories, and in many places where formerly hard coal was the fuel employed. Whereas there are cheap, effective means of full combustion ready to hand, the insolence of power ignores them. Whereas, also, there are statutory enactments, local regulations, giving jurisdiction to the executors of the common laws, indicating what shall be done to avoid these nuisances, what penalties shall be applied to offenders, still the insolence of power overrides them, safely, all but unrebuked.

Is it creditable to any community to have it said of them collectively, or as individuals, that they are false to their highest duties? Sins of omission are estimated by the churchmen as equivalent to those of commission.

Where does the effect of this sin of apathy bear heaviest? Upon the tender, susceptible tissues of infants and young children, who are sorely tried at best by a thousand perils induced by ignorance, selfishness, and vice. Human greed tends ever more and more to crowd population into cities, to strive for the gratification of immediate or sensuous demands, and this is dignified by the name of "progress." Men marry and children come uninvited, sometimes unwelcomed; they are regarded too often as encumbrances; must live as best they can; little thought is given to, and less sacrifices are made for, them. Vigorous adults can endure vitiation of air, deprivation of light, infliction of terrifying noises, jarrings; but all this seriously insults the tender cells, the indescribably delicate nervous mechanisms of infants. When they acquire illnesses, demanding the utmost of their powers of recuperation, not only to overcome the direct effects, but to advance in uniformity of developmental progress, they should be subjected to no further deteriorating influences.

In cities, however, a serious menace is nearly always present in the shape of air pollution, which strikes at the foundation of constitutional integrity. When this damaging and entirely preventable menace is present, it adds a serious burden to the already enfeebled organism. The same may be said of older persons whose resistance to disease is lowered by fatigue, worries, illnesses, and whatever depresses vitality. Infections enter more largely through the upper air-passages, notably tuberculosis.

It has been shown that street-cleaners are almost inevitably affected, soon or late, by tuberculosis. The constant irritation of the delicate surfaces of these air-avenues from dust, especially from bituminous coal smoke, produces a vulnerable state of the mucous surfaces, inviting the entrance of the bacilli of tuberculosis, influenza, diphtheria, scarlatina, measles, and many others.

The paramount utility of a clean, wholesome air to breathe is so obvious that it is only necessary to call attention to some of the effects of deprivation. To begin with children, as is always the proper point of departure, it is shown by all clinical principles that unless they are provided with an ample supply of good air, night and day, they fail of developing not only their lungs, the key to their existence, but changes in temperature within the normal cycle of permissible variants are essential in acquiring vigor, are thus secured by life in the open.

Northrup, of New York, has recently shown that in a number of instances frail young children, whose lives were despaired of, have become robust by spending months at a time in the open air on housetops, in suitably prepared shelters. This procedure is being adopted broadly in doubtful conditions, and would be the more employed if only the character of the air they would get on housetops could be freed from vitiation by smoke and noxious gases. Acute diseases, such as bronchial and pulmonary disorders, formerly treated in superheated rooms, are

found to be vastly more amenable to open-air treatment. It is abundantly well known that the *sine qua non* in conserving the health of tuberculosis cases is the open-air life. It is not necessary, however desirable, to remove such persons from the vicinity of their homes, provided they can secure open spaces, yards, balconies, housetops, and good air free from pollution.

The human race has too long been dominated by prejudices, the relic of our cave-dwelling ancestors. We should cease to live in dark, airless rooms. In consequence of this, countless thousands have died. These are now being saved, to the immense credit of the medical profession, who have only lately acquired courage to insist on disregarding these prehistoric myths. The eternal betterment of the race is now hopefully assured by the forceful enunciation of the principle. What we suffer from most is the criminal disregard of plainly indicated laws of hygiene by those who, through aggregations of wealth in railroads, large factories, and the like, continue to pollute our air by unconsumed smoke, the use of cheap bituminous coal, and careless stoking. Do these railroad managers, these manufacturers own the cities, towns, the people in their homes, or do they exist and do business by our consent and for our comfort and convenience? The answer is obvious; but why do we passively, pusillanimously submit to them, protesting feebly, or not at all? If the individual members of our profession will do their simple duty, preach and exhort unceasingly, other forms of offence and sources of danger and disease will be removed.

J. MADISON TAYLOR.

Cyclopædia of Current literature.

ACETONURIA, POST-ANÆSTHETIC.

Two separate conditions should be recognized—acute and chronic acetoneuria. Ether and chloroform invariably induce a temporary acute acetoneuria, which may be very detrimental even to an apparently healthy organism. This acute anæsthetic acetoneuria is accompanied by symptoms of acid intoxication, sometimes ending in death, when the kidneys are unable to cope with the increased formation of acetone by a corresponding incapability of excretion. Although ether may produce a greater acetoneuria, this is less harmful than that produced by chloroform, because ether

is less injurious to the cells of the liver and kidneys, and thus does not hinder their power of elimination. The more plentifully and rapidly excretion is carried on, the less serious is the poisoning. The effects of the poisoning are mitigated by the administration of alkalis, which may also be given with advantage before operation if poisoning be anticipated.

The usual risks of anæsthesia are not increased by persistent chronic acetoneuria. Anæsthesia is dangerous with persistent acute acetoneuria, however, especially if the anæsthetic is chloroform. A guarded prognosis must al-

ways be given when acute acetonuria is present with symptoms of poisoning. Death following the administration of chloroform, with symptoms of poisoning, may be due to the idiosyncrasy of the patient. Lewis Beasley (*British Medical Journal*, May 19, 1906).

ANÆMIA IN INFANCY.

Anæmia is frequent in infancy, on account of the numerous conditions that may produce it which exist in the baby, and the lack of resistance of the corpuscles and the hæmatopoietic organs to morbid agents. No rational classification of anæmic conditions in the child is possible, except with reference to the hæmatology. Starting with the conception that the essential symptom of anæmia is oligochromemia, dependent upon the lowering of the globular resistance, and that at times there is oligocythemia, the writer divides the anæmias into two groups: pure anæmia and complicated anæmia. Of uncomplicated anæmias there are three types: chlorotic, simple, and pernicious. In the chlorotic type, the oligochromemia is produced by the diminution of the globular resistance without the number of the red globules being lowered. There is an insufficiency of the amount of iron necessary for the formation of hæmoglobin. This insufficiency may be congenital, depending on the scarcity of the reserve iron which the infantile organism takes from the mother, which may arise from any of the causes which lessen nutrition in the mother, such as poor feeding; or there may be a premature exhaustion of the reserve, or the exaggeration of hæmolysis in the few days after birth. Simple anæmia shows an oligochromemia, produced either by oligocythemia or diminution of the red corpuscles, with lessened glob-

ular resistance at the same time. In babies, more than in adults, there is polychromatophilla and anisocytosis, with appearance of normoblast in the circulation. There are many causes of simple anæmia which act by consumption of the blood, with diminution of production. The most frequent are disturbances of the digestive tube, deficient and improper feeding, poor hygiene, hereditary syphilis, tuberculosis, intestinal worms, sepsis, exanthemata, etc. Pernicious anæmia is characterized by oligocythemia of high degree, intense oligochromemia, increased globular resistance, presence of megaloblasts in the circulation, nucleated hematias, anisocytosis, poikilocytosis, and marked polychromatophyllia. All the ordinary causes of anæmia, when acting in a marked degree, may produce the pernicious variety. Causes aside from these are bothriocephalus latus, ankylostomum duodenale, hæmorrhage, malignant tumors, malaria, syphilis, sepsis, and intestinal autointoxication. The complicated anæmias are characterized by various types of hæmatology, according to their etiology. The most important are mixed pseudoleukæmia, and the myelogenous form, splenomegaly with leucopenia, and splenomegaly with lymphocytosis. A. G. Petrone (*Gazetta Med. di Roma*, March 15, 1906; *American Journal of Obstetrics*, June, 1906).

ANEURISM OF THE AORTA, ANGINA PECTORIS AS AN EARLY SYMPTOM IN.

Pain is one of the earliest and most constant symptoms of aortic aneurism. It was the first and most severe symptom in about half of the author's cases. It is possible that it should be absent, though there may be dyspnœa, cough, and cyanosis, and though the sac may perforate the wall-chest or erode the spine.

The most common situation for the pain is in the region of the heart itself, radiating to the neck, the shoulder and back, and down the left arm or both arms. In some cases the abdominal pain is severe. Several distinct varieties of pain may be recognized in this disease: 1. Attacks of true angina, having paroxysms of pain of maximum intensity, with radiation to the arm. 2. Sharp neuralgic pain, due to the pressure on the nerves, perhaps extending along the course of the nerves, and associated with herpes when the descending thoracic aorta is implicated. It is similar in character to that which is caused by the pressure of pelvic tumors and by diseases of the vertebræ, and it may be paroxysmal in character. 3. Pain, of a dull, boring character, which is present when the chest wall or the spine is eroded by the aneurismal sac. This is the form of aneurismal pain which is most enduring and most severe. It is due to tension and stretching of fibrous and bony structures, rather than to pressure upon nerve cords. 4. Pain referred to the nerves of the arms or the skin in the precordial region, or to the pectoral or sternomastoid muscles.

The object of the writer's paper was to narrate types of cases in which attacks of angina pectoris customarily precede the appearance of the aneurism for months or years. The paroxysms may not be in the least suggestive of aneurism, but they are associated with early structural changes in the wall of the aorta. In sclerosis of the aorta pain is not necessarily a symptom, the author having observed this fact in syphilitic patients. With lesions of arteries the pain may be most intense, this being frequently observed in embolism, thrombosis, and the ligation of vessels. W. Osler (Medical Chronicle, May, 1906).

APPENDICITIS, PURULENT, TREATMENT OF.

The writer considers that immediate operation is preferable to delay in all cases of severe appendicitis of whatever type. Small incisions simplify technique, and favor the least amount of trauma, shock, and expenditure of time in the operation. They also lessen the danger of post-operative hernia, and of extensive post-operative intestinal adhesions. The use of gauze pads for walling off the operative area should be limited, as a rule, to cases with well-localized abscesses. Abundant saline irrigation is the most rapid and satisfactory method of removing infective material in cases of spreading peritonitis. Attempts to drain the general peritoneal cavity are useless; drainage should be limited to abscess-cavities, and to the region of the stump in cases in which a clean inversion with complete removal of necrotic material is not obtainable.

After-treatment should be simple, with little or no attempt to irrigate or cleanse drainage tracts, even in cases where the discharge is abundant. C. H. Peck (Surgery, Gynecology and Obstetrics, May, 1906).

AUTOINTOXICATION.

Autointoxication by the tissues of various organs, or by derivatives of these tissues is very probable. Clinically, there is a group of cases in which the kidney has undergone reduction in size, such reduction affecting chiefly the cortex; in many of the cases the blood-pressure is raised, and certain signs and symptoms spoken of as uræmia are present. The kidney-substance, especially the cortex, when fresh can cause a rise of blood-pressure. The actual substance responsible for this effect has not been isolated. It is not a crystalline

body, but it is of a colloid nature and cannot be dialysed. It is very labile, and appears to be destroyed when the kidney substance has lost its freshness. Clinical and experimental observations, therefore, support the view that maintained hypertension may be due to the entrance of kidney-substance into the circulation. Since raised blood-pressure occurs so often in uræmia, the latter may also be due in part to the entrance into the system of toxic material derived from the kidney. That the cerebral manifestations of uræmia are due to arterial spasm may be accepted, in view of the fact that the toxic substance derived from the kidney acts upon the peripheral centers of the vasomotor nerves, and the cerebral arteries possess a nervous supply. The press or effect of the kidney substance may be lost when the organ has undergone autolysis. Now, autolysis is an accepted physiological agency by which the chemical changes of the body are carried on. Experiment shows that when tissues are cut off from the circulation, autolysis takes place. If, then, the blood-supply to various organs be cut off by arterial disease, after a certain period of time the organs atrophy by a process of autolysis. Autolysis is a process allied to digestion and is due to the existence of intracellular proteolytic enzymes. No derivative of autolysis is known which is capable of causing a rise of blood-pressure. Therefore kidney-substance can alone be the cause of the rise of blood-pressure met with in renal disease; it must enter the circulation before autolysis has occurred, during the period of maintained vitality. All organs which have undergone the initial process of autolysis may yield such substances as proteoses, histones, nucleinic acid, and choline. In

this stage they can yield to the circulation material which is capable of exerting a fall in the blood-pressure. If autolysis proceeds further, the derivatives are quite without effect. The action of kidney-substance, when once it has reached the circulation and produced a rise in pressure, explains the common occurrence of hypertrophy of the middle coat of the arteries and of the heart. H. B. Shaw (*Lancet*, May 26, 1906).

AUTOINTOXICATION, OR AUTOINFECT- TION, CAUSING MENTAL DISTURB- ANCE: TREATMENT.

The treatment of an average case of mental disease where the cause is auto-intoxication, or autoinfection, would include a tonic before meals, antiseptic with meals and two hours after meals, also daily colonic flushings with normal salt solution, and baths of salt water for twenty minutes to an hour at night. The diet should be regulated, and consist entirely of milk at first. Should there be much decomposition in the stomach, lavage should be resorted to. The antiseptics and tonics can be varied in quantity and kind, according to the individual or the results obtained of antiseptics. The writer considers glycothymoline, betanaphthol, sodium phosphate or benzoate, naphtholine, calomel, peppermint, salol, sodium bicarbonate, the most valuable in these cases; and of tonics, strychnine, or nuxvomica and gentian. In cases where there has been actual damage to the brain, the treatment has shown that the progress of the disease can be stopped though it must not be expected to go further and replace damaged areas. Almost every case of mental disease begins with insomnia; and while this is not the cause of the disease, it retards

repair, and, until normal sleep is established, permanent result cannot be obtained. With the elimination of the toxins by antiseptics, sleep usually comes without sedatives. L. V. Briggs (Boston Medical and Surgical Journal, May 3, 1906).

BACTERIA, ACTION OF ELECTRICAL DISCHARGES ON.

An elaborate series of experiments was conducted by the authors, with the view of determining the action on bacteria of electrical discharges of high potential and rapid frequency. In all the experiments in which a decided germicidal effect was observed, it appeared that this was due entirely to the action of substances formed as the result of electrical action on the atmosphere in which the discharge occurred; and it appeared that under the time-conditions of the experiments the electrical force employed was not capable of exercising any injurious action on the bacteria tested. And it is probable that when, in medical practice, cases of lupus and certain other cases in which there is an exposed ulcerated surface are treated by "high-frequency" discharges, the results produced are due entirely to the action on bacteria of nitrous and nitric acids formed in the neighboring air. From a therapeutic point of view, the use of high-frequency discharges in such cases must be looked on mainly as an efficient method for bringing germicidal substances in a nascent and very active condition into contact with the bacteria present in the lesion exposed to the action of the discharge. A. G. R. Foulerton and A. M. Kellas (Lancet, May 19, 1906).

BLOOD AND GASTRIC JUICE.

In all cases of primary hyperacidity, as well as in the cases evoked by the presence of a growth, the author finds that the hæmoglobin contents of the blood is high, showing an average, in twenty-nine cases, of 73 per cent. The same findings were observed in cases of secretory gastric insufficiency, whether this was spontaneous or secondary, as it is found in cases of gall-stones, cirrhosis of the liver, neoplasms of the gall-bladder, and malarial swelling of the liver and spleen. In this group the hæmoglobin averaged 61 per cent. The writer concludes that when no severe hæmorrhages have taken place, the blood-findings are very near the normal in cases of hyperacidity from any cause. A. R. von Kobaczkowski (Zentralblatt für innere Medizin, April 21, 1906; New York Medical Journal, May 26, 1906).

BLOOD-PLATES, ORIGIN AND NATURE OF THE.

A prolonged study of the comparative morphology of the blood-corpuscles of a wide range of animals has been made by the author. From this he states that he is convinced that the blood-plates are detached portions of the cytoplasm of those giant cells of the bone marrow and spleen which have been named megakaryocytes by Howell, to distinguish them from the multinucleated giant cells of the marrow, the so-called osteoclasts or polykaryocytes of Howell. The two constituents of the cytoplasm of the pseudopods and of the bud-like processes of the giant cells are identical with the two substances making up the blood-plates in staining reaction and textures, and they are similar in their arrangement with reference to each other. Furthermore, all grades of transition exist

between bud-like processes of giant cells in process of detachment, or slender pseudopods showing signs of dividing into smaller parts by transverse division, and the blood-plates. In view of these facts the inference seems to be justified that the blood-plates are detached portions of the cytoplasm of the giant cells. J. H. Wright (Boston Medical and Surgical Journal, June 7, 1906).

CARBOLIC ACID AND CAMPHOR IN THE TREATMENT OF SUPPURATION.

Chlumsky's method of treating suppuration with a mixture of 30 parts carbolic acid, 60 parts camphor, and alcohol to 100 parts, has been adopted by the writer, who confirms all of Chlumsky's assertions in regard to the simplicity, harmlessness, and effectiveness of this method of treating all kinds of inflammations. It does not require trained assistance, and his experience in 96 cases of felons, phlegmons, leg ulcers, furunculosis, erysipelas, tuberculous fistulas, and infected wounds of all kinds, was extremely favorable. The mixture is applied on a loose tampon, without an impermeable covering, and the length of treatment was found to be very much shorter than by other methods. There were no disagreeable by-effects.

Among the examples cited was the case of a soldier with a tuberculous fistula in his neck which had resisted treatment for months. Under phenol-camphor treatment the fistula healed in twelve days. In another case an old leg ulcer on a soldier healed under three applications. The relief from pain and the feeling of warmth suggest that the benefit may be due to artificial hyperæmia, as in Bier's passive congestion; but the latter technique requires trained supervision, which is unnecessary with the phenol-camphor dressings. A folded

mull compress impregnated with the phenol-camphor is placed around the focus and dry cotton over it, the whole held by a loose bandage. When the focus is incised a strip of mull impregnated with the mixture is introduced into the opening. C. Ehrlich (*Münchener medizinische Wochenschrift*, Bd. liii, Nu. 11; *Journal of the American Medical Association*, June 9, 1906).

CONGESTION, CHRONIC, TREATED BY ELECTRICITY.

Nine cases of chronic congestion which were treated by electricity are reported by the author. He holds that the electricity, whether the constant current, the interrupted current, or high-frequency, causes the muscular wall of the vein to contract, and thereby helps not only to empty it of blood, but also to tone up the weakened wall, partly by stopping the overdistention, and partly by actual contraction of the muscle itself, making it stronger and more willing to work again. The ozone from the high-frequency brush also stimulates the ulcerated surface. The writer always uses high-frequency, as its action is much stronger on the veins, while at the same time it is not unpleasant to the patient, as are the other forms of electricity. Three of the cases were of simple varicose veins; of these, two patients had no recurrence, while one gave up treatment. Six other cases had simple varicose ulcers; of these patients four were healed, while two are still under treatment. F. A. Stoney (*Archives of the Roentgen Ray*, May, 1906).

CONSTIPATION IN INFANCY.

While the constipation of bottle-fed infants should in theory be largely avoidable, the condition is met with only

too frequently. It is ordinarily best met by a general increase of the strength of the food, with possibly a somewhat greater increase in the fat, but not one exceeding four per cent. Orange-juice should be given after six months of age, and if there be the usual evidences of rachitis, codliver-oil also. Oatmeal gruel may be substituted as the diluent, and a malt-sugar preparation be substituted wholly or in part for other forms of sugar. These measures, one or several of which may be required, according to the stubbornness of the case, usually suffice; but if they fail, cascara is the best regulative, increased from small doses until results are obtained. In the writer's experience, infants require relatively full doses of cascara preparations. T. S. Southworth (*Annals of Gynecology and Pediatrics*, June, 1906).

DIABETES, PATHOGENY OF.

Ordinarily in human diabetes the sugar is conveyed to the kidney in the blood and simply eliminated by that organ, *i. e.*, hyperglycemia is antecedent to the glycosuria. In one class of cases the eliminated sugar is indirectly traceable to carbohydrate in the food ingested. Another source of sugar in diabetes is the breaking down of complex molecules into which the sugar molecule has previously entered. This occurs in advanced cases of diabetes, where the power no longer exists of preventing the elimination of sugar by restriction from carbohydrate food. In these cases there is active wasting, and it may be assumed that through an abnormal enzymic agency there is a wrong katabolism proceeding, which is attended with the liberation of sugar. No doubt can be entertained that the nervous system plays an important part in the pathogeny of diabetes. Vasomotor paralysis, impli-

cating the chylipoietic viscera, constitutes one source, if not the main source, of diabetes. Hyperoxygenation of the blood may derange metabolism and induce glycosuria. Diabetes most frequently exists in connection with the neuropathic disposition; the more sensitive and highly-strung the nerve organization, the more intense the form of the disease. A cerebral influence over the vasomotor stage is suggested as constituting the link between brain and diabetes. Neurotic polyuria is of common occurrence in association with different cerebral conditions. Diabetes insipidus may be regarded as the result of a persistent vasodilatation, implicating especially the renal vascular area. Exophthalmic goiter is another example of a disease connected with a local vasodilatation. F. W. Pavy (*Lancet*, May 5, 1906).

DIET IN ACUTE ILLNESS.

The writer calls attention to the fact that Graves was the first to reverse the old custom of starving the sick. The influence of food in fever must be considered not only from its effects on temperature, but on all the symptoms induced by the infecting organisms. The action of food is not only to counteract poisons, by supplying antibodies or changing the alkalinity of the tissues, but to stimulate the heart and nervous system. The elimination of poisons may be stimulated by the ingestion of large quantities of fluids, the poisons being diluted and the cutaneous and renal organs stimulated to activity. For aids in secretion, digestion, and assimilation, food-ferments and dilute acid should be given. In chronic pyrexia, a quantity of food equivalent to 1500 to 2000 heat-units will suffice. A milk diet with plenty of cream is be-

lieved to be almost ideal in the average febrile condition. Alcohol is a food, and is indicated when a crisis is to be tided over, in prolonged illness, during convalescence, and to improve the appetite and assist in the assimilation of other foods. G. N. Pitt (Practitioner, April, 1906).

ECLAMPSIA, CALOMEL IN.

Six cases of eclampsia are reported by the writer in which the use of calomel was attended by good results, except in one case. In the first case 10 grains were given immediately after delivery. There were no further convulsions, and the urine became normal in quantity in less than 48 hours after delivery. There was no salivation. In the second case 20 grains of calomel was given in 2-grain doses frequently repeated, with the same result as in the previous case. The third patient had her first convulsions during the third stage. There were 11 convulsions in all. The patient was given 15 grains of calomel within 30 hours. The fourth patient was given 20 grains of calomel after the first convulsion, which occurred during the third stage. There were no more convulsions nor was there any need for the use of sedatives. The fifth patient had convulsion immediately after labor began. Following a podalic version and extraction she had two more convulsions, with increasing coma, and after an interval of three days another convulsion occurred. The sixth patient, an alcoholic, was first seen in coma, which followed three convulsions. Death occurred thirty hours after delivery, from pulmonary oedema. Thirty-five grains of calomel had been given in doses of 5 and 10 grains.

The author argues that calomel should be energetically administered

both in the pre-eclamptic stage and in the stage of convulsions. An initial dose of 10 grains, followed in four to six hours by an equal dose, is indicated in the first instance. In the convulsive stage an initial dose of 20 grains, followed by half this amount in the intervals between convulsions, as the opportunity arises, or in accordance with the ability of the patient to swallow, is indicated. If the patient is somnolent, or if the convulsions follow each other in quick succession, the maximum dose, 25 grains, should be administered at the first opportunity. In cases in which a pre-existing kidney lesion is present, smaller doses may be given frequently—two grains every six hours. W. R. Wilson (Therapeutic Gazette, May 15, 1906).

ENEMATA AND IRRIGATIONS.

The use of scented soaps for making a soap enema is warned against by the writer, since they may contain toxic essences. Oil enemata given at night are useful in chronic constipation occurring in people occupied during the day, but nervous patients who sleep badly will do better to wait until morning for their injection. Oil enemata are also very effective in the case of peritoneal adhesions, which usually assert their presence by painful crises preceding the act of defecation. The treatment should be applied two or three times during the year. For the first fortnight an enema is given every day, then every second day for the ensuing fortnight, then twice a week, and finally once a week.

Injections of tannin (1 or 2 per cent.) cannot be recommended in the treatment of catarrhal enteritis, since they cause pain and pathological changes in the mucous membrane of the large intestine. Diarrhoea in tuberculosis is

very often due to a simple catarrh not tuberculous in origin, and can then be easily treated by regular enemata of solution of salicylic acid, 3 per 1000. Irrigations must not be used if there is reason to suspect appendicitis, as there is always imminent danger of perforation in this affection.

In the case of biliary lithiasis, the daily use of enemata, composed of a quarter of a litre of sesame oil, a piece of soap the size of a nut, half a litre of hot water, and a pinch of carbonate of soda to aid emulsion, is recommended. The effect of this treatment is often remarkable; in weakly patients the enema should be given every other day.

The systematic use of simple enemata exerts an action, too often ignored, upon the circulation in arteriosclerosis, for it often happens that this apparently simple measure may bring about a crisis of grave prognosis.

Medical enemata must always be of small bulk, about two ounces for example, with marshmallow or gum arabic for basis. Among these, the writer draws special attention to enemata of collargol (1 or 2 per cent.) in the case of puerperal troubles. For nutritive enemata he recommends milk, the yolks of two eggs, a pinch of salt, and some drops of laudanum. Fats and carbohydrates are not well absorbed by the rectum. The enemata-tube should be inserted to a distance of five centimeters above the plane of the perineum; long tubes nearly always remain in the rectal ampulla, where they are bent up. Enemata should always be given in the lateral position; in the dorsal when the patient is giving it to himself. Sternberg (*Deutsche medizinische Wochenschrift*, Nu. 6 und 7, 1906; *Practitioner*, May, 1906).

FATIGUE.

The known facts and the theories regarding the phenomena of fatigue are reviewed by the writer, showing that although physiologists are generally in agreement as to the facts of muscle-fatigue so far as demonstrated, and it is pretty certain that the peripheral nerve-fibers are themselves exceedingly resistant, the question of the susceptibility of the nerve-centers to fatigue is still considerably in dispute. In view of the recent results of Sherrington, Joteyko, Story, and others, the writer is inclined to think that the muscular system tires before the nerve-centers, and that the latter are, like the peripheral nerves, resistant to fatigue. They also throw a certain measure of doubt, the writer states, on all supposed proofs of central fatigue. A physiological explanation of the facts of mental fatigue is not possible, according to the author, in the present state of research. The fact of fatigue of psychic centers cannot be denied, but as to its being of central peripheral origin can only be spoken of with caution. As yet, too little is known in regard to the chemical changes attending fatigue. The author's own experiments make it seem probable that a loss of carbohydrate has considerable part in the production of muscular fatigue, and he has also experimented with three metabolic products generally recognized as fatigue-substances, sarcosolactic acid, monopotassium phosphate, and carbon dioxide, and finds that these exercise a toxic depressant action, especially on the muscular system, and that the sensation of fatigue is in large part the psychic manifestation of this depression. Other like fatigue-substances will probably be discovered, and Weichardt's alleged discovery of a special fatigue-toxin and

antitoxin is mentioned in this connection as requiring confirmation.

Little is known as to the production of fatigue-substances in the central nervous system. The action of these substances, however, is not confined to the tissues in which they arise; excessive activity of one tissue can cause fatigue of others, and there are probably very few physiological functions that are not affected unfavorably by the prolonged and excessive activity of the muscular and nervous systems. The facts of acid intoxication are noticed as analogous to fatigue phenomena, so far as the latter are due to toxic substances.

In conclusion, the writer mentions as noteworthy the lack of serious endeavor to provide specific antidotes for fatigue, considering its importance in our daily life. Alcohol, which in small amounts seems to have a favorable action, is followed by unfavorable after-effects and cannot be classed as a valuable antidote, and the same is true of other substances of similar physiological properties. A true antidote must recognize the causes. Both scientific and unscientific experiences have shown the real value of sugar as a partial restorer of working power, and alkali, such as bicarbonate, may not be without some value. These, however, are only partly efficacious, and only rest and sleep can be thoroughly relied upon. F. S. Lee (*Journal of the American Medical Association*, May 19, 1906).

FATTY DEGENERATION OF THE LIVER IN INFECTIONS.

The author finds that fatty degeneration is absent or slightly developed in acute infections, not because these processes are incapable of producing this change in the liver, but because they

are so rapid that the organ has not time enough to undergo these changes before the patient dies. The fatty degeneration of all the endothelial cells of the capillaries of the liver, which is so frequently found in acute infections, shows that these acute processes are capable of producing a marked degree of fatty degeneration. The endothelial being in immediate contact with the toxic substances circulating in the blood, they are the first to feel the effect of the infectious product. In all cases of fatty degeneration of the liver, the process begins at the periphery of the hepatic lobule, and proceeds centripetally, so that very often the fat may be found only at the periphery of the lobule, showing incidentally that the cause of the degeneration, whatever it may be, comes undoubtedly from the portal system. When the fat is deposited in the center of the lobule, the degeneration is due to a circulatory cause (stasis). There is no gradual transition between fatty degeneration and cellular necrosis, for the foci of necrosis, which are seen in acute infectious diseases of the liver, are sharply circumscribed and separated from the surrounding areas of fatty degeneration. The granules of fat are made evident very readily with the aid of Sudan III. The same stain also shows reddish brown granules in the hepatic cells which are neither fat nor pigment, but probably the product of a special degeneration. These granules are frequently met with in acute and rarely in chronic infections, and may exist even when there is but little fatty degeneration. They are especially numerous in the cells near the center of the acinus. Paolo Bueri (*Riforma Medica*, March 24, 1906; *New York Medical Journal*, May 5, 1906).

FIBROSIS, VASCULAR SPASM AND.

In cases of high tension, due to fibrosis, the nitrites can be of little value, and the iodides, with rest and massage, are needful. Cases of *very* high tension are usually those in which the heart escapes sufficiently to help maintain the tension. As fibrosis in the peripheral vessels increases, the muscles of the larger vessels undergo hypertrophy, as does that of the heart. It is quite as possible for vascular compensatory hypertrophy to rupture, as for the cardiac compensatory to do so. This rupture of vascular hypertrophy often gives the heart a rest and permits it to recover from its fatigue, and so life is saved. It is possible, if the peripheral fibrosis is arrested, for the vessels also to regain power and a general improvement to ensue. The cardiac stimulants are not needed in these cases as much as rest and the skillful use of alteratives and vascular sedatives. H. A. Hare (*Medicine*, June, 1906).

GASTRIC CANCER, LACTIC ACID FORMATION IN.

Thirty-four cases of cancer of the stomach in which the diagnosis was dubious have been investigated by the author. He summarizes the conclusions of his findings in the statement that the long lactic-acid bacilli do not flourish in the stomach, unless there is a more or less complete lack of free hydrochloric acid in the gastric juice. Disturbances in the motor-function also favor their proliferation, but the most important factor for their growth and for lactic acid fermentation is the product of the autodigestion (autolysis) of a cancer, that is, the soluble albuminoids produced by the cancer. The long bacilli are found in patients with lacking or insufficient acidity, and even in the

mouths of healthy persons, but they never flourish so luxuriantly as in case of an ulcerating cancer. If there is very little albumin in the stomach, or if it has been coagulated by boiling, very little lactic acid is formed; the volatile fat acids predominate. Addition of albuminoids in the form of extracts of carcinoma or of the thymus or other organ particularly rich in cells, is followed by a rapid increase in the production of acids, with the ether-soluble acids predominating, especially lactic acid. This action of the tissue-extracts on the metabolism of the bacteria is probably a fermentative action. The determination of the volatile fat acids is, therefore, not so decisive as the evidence of lactic acid. K. Sick (*Deutsches Archiv für klinische Medizin*, Bd. lxxxvi., Nu. 4-5; *Journal of the American Medical Association*, May 19, 1906).

GASTRIC ULCER, LENHARTZ TREATMENT OF.

The writer describes the Lenhartz treatment of gastric ulcer at the Eppendorfer Krankenhaus as follows: Absolute rest in bed for at least four weeks. All mental excitement to be avoided. An ice-bag is placed upon the stomach, and kept there almost continuously for two weeks. On the first day, even where a hæmatemesis has occurred, the patient receives between 200 and 300 cubic centimeters of iced milk, given in spoonfuls, and two to four beaten eggs. At the same time bismuth subnitrate is given twice or thrice a day, 2 grammes at a dose, and is continued for ten days. The eggs are beaten up entire (with a little sugar), and the cup containing them is placed in a dish filled with ice, so that they remain cold. Sometimes a little wine is added. The allowance of milk is increased 100 cubic centimeters

daily, and at the same time one additional egg is given, so that at the end of the first week the patient is receiving 800 cubic centimeters of milk and six to eight eggs. Both these foods are now continued in the same amount per day for another week. Besides milk and eggs, some raw chopped meat is given from the fourth to the eighth day on, usually the sixth; 35 grammes per day, in small divided doses (easily stirred up with the eggs or given alone), the day after 70 grammes, and later possibly more if well digested. The patient is now able to take some rice well cooked and a little zweiback (softened). In the third week quite a mixed diet is tolerated, the meat being now given well cooked or lightly broiled. All heavy foods are, of course, interdicted, as well as vegetables with husks, etc., and those tending to produce flatulence. At the same time the patient is given strict orders to masticate his food thoroughly. The bowels are not to be moved, both in order to avoid any peristaltic irritation and to permit the reabsorption of blood that may have passed into the intestine. In fact, no attention need absolutely be paid to constipation in the first week, nor in many cases even at the end of the second. After the second week the bowels are moved with small glycerine injections, or warm water, and after the third week this is done daily, if a movement does not occur spontaneously. After this the bowels should be controlled by means of the food, and by having the patient go to stool regularly. For the anæmia, iron is given in the form of a soft preparation of Bland's pills. In severe cases arsenic is also given in form of pills. The patient is usually allowed up on the twenty-eighth day, and is dismissed in the sixth to

tenth week. Habermann (Medical Record, June 16, 1906).

GONORRHOEA, LEUCOCYTES IN.

The polynuclear neutrophiles are highest in acute anterior urethritis, and decrease with involvement of the posterior urethra, and are lowest in chronic gonorrhœa in male or female. The mononuclear leucocytes are increased in the chronic processes and vary inversely with the polynuclear neutrophiles. The eosinophiles are slightly higher in acute anteroposterior urethritis than in acute anterior urethritis. That this is due to involvement of the glands or epididymis, prostate, or posterior urethra, is doubted very much by the author, as the eosinophiles are comparatively lessened in chronic cases. The basophiles are hardly affected by the disease. There is no relation between the appearance of any type of leucocyte in the blood and in the discharged pus. The eosinophiles are of no diagnostic value in gonorrhœa. I. S. Wile (American Medical Sciences, June, 1906).

GROWTH AND DEVELOPMENT, INFLUENCE OF DEFECTIVE NASAL BREATHING ON.

Among the functions observed by the nares in the respiratory process are the heating of the inspired air and the addition of watery vapor, as well as the filtration of particles of solid matter. If this mechanism be deranged from any cause, infection is likely to take place, with resultant catarrhal disturbances and impairment of hearing in case of extension to the Eustachian tube. If nasal breathing be obstructed, especially in children, only imperfect expansion of the lungs can take place, and deformity of the chest results. A certain amount of adenoid tissue is present normally in

the nasopharynx of children, but an excess appears to cause effects apart from the obstruction of breathing to which this gives rise. The mouth-breathing child with adenoids not alone presents a dull, stupid look, but it also seems intellectually below the average, and it is usually stunted in general growth. The improvement in all directions following removal of such excessive adenoid tissue is a most striking and convincing phenomenon. In a discussion of this subject in a recent communication Dr. P. Watson Williams (*Bristol Medico-Chirurgical Journal*, March, 1906) emphasizes the physiologic importance of the nose in influencing respiratory activity, and the pernicious effect of the absence of the nasal respiration, not alone on account of the commonly-recognized results of unwarmed, unmoistened, and unfiltered air reaching the lungs, but also from the persistent abrogation of nasal respiratory stimulation. At the same time he does not underestimate the factors responsible for the defective physiologic activity of the respiratory centers in children suffering from enlarged tonsils and adenoids, especially chronic sapræmia, causing tissue inactivity and absence of the normal need for more rapid respiratory exchanges. Children who persistently fail to expand their lungs fully, or in whom the respiratory exchanges are subnormal, are underfed, for a due supply of inspired oxygen is essential for the utilization of food in the processes of internal respiration. Accordingly, after the removal of abnormal conditions in the nose and throat, it is wise to recommend activity in the open air, cold baths, and particularly physiologic drill, comprising appropriate respiratory exercises, in order that the listless, partially asphyxiated child may grow up in the fulness of life.

Editorial (*Journal of the American Medical Association*, May 26, 1906).

HÆMOPTYSIS, TREATMENT OF.

From the result of their laboratory experiments and clinical experience, the authors believe that nitrite of amyl is the most useful pulmonary hæmostatic; its action is always rapid and certain, and its toxicity little. The researches showed that the useful dose varies from 3 to 9 drops by inhalation; that the latent period is short—from half a minute to three minutes; that no pulmonary vasodilatation succeeds the vasoconstriction; that no case of fatal poisoning occurred, and that the hæmostatic action resulted either in the early congestive stage, or at the period of cavitation.

In the laboratory a curarized dog was kept alive by artificial respiration. The fall of artificial pressure in larger circulation was first noted. The color of the lungs was observed before and after an injection of nitrite of amyl. After the injection the normal rose color gave way to a white anæmic tint, beginning in patches, which extended and coalesced so as to involve the whole parenchyma of the lung. This action lasted for about eight minutes, and was so marked that if a deep section of the lung were made at the time of the injection at the end of the latent period, the bleeding ceased almost as if a ligature had been applied. A trochar placed on the pulmonary artery so as to give a pressure-tracing showed a marked rise of blood-pressure after the injection, a rise which was maintained for ten minutes. It is not pretended that amyl nitrite is a certain specific for hæmoptysis. It is admitted, for instance, that in cases where the hæmorrhage is due to pulmonary congestion due to enlargement of

the right side of the heart, digitalis is likely to give a better and more permanent result; but the authors believe that their experiments have shown enough to give amyl nitrite the first place among the vasomotor drugs in hæmoptysis. Pic and Petijean (*Lyon Médical*, February 12, 1906; *British Medical Journal*, June 2, 1906).

HAY FEVER, COLD APPLICATIONS IN.

All other attempts to relieve the patients during a very bad attack of hay fever having failed, the author applied cold compresses to the man's forehead and face, wringing them out of ice-water and reapplying them as soon as they began to get the least bit warm. In about three-quarters of an hour relief was obtained. The treatment was kept up constantly for about three hours, and off and on for about six hours. The patient did not have another attack that season. A year later the attack came on again. The patient applied cold compresses for about four hours, and was entirely relieved in twenty-four hours. The attack did not recur. O. H. Wolner (*Journal of the Minnesota Medical Association and the Northwest Lancet*, May 1, 1906).

HEART AND THE DIGESTIVE TRACT, RELATION BETWEEN DISEASES OF THE.

Attention is called to the relation between diseases of the heart and the digestive tract. The patients complain about an accumulation of gas in the stomach and intestines, which they observe after each meal. The reason for this sensation seems to be a deficient absorption of the gases produced during digestion of the blood-vessels. The defective circulation of the venous blood from the vessels of the stomach and

intestines is probably also responsible. The diagnosis rests principally upon the temporary connection of the heart-phenomena and the disturbances of digestion. It is easily discerned in the periodical or paroxysmal forms, while a continued observation will be necessary in the chronic cases. It is possible that an abnormal sensitiveness of the nervous system of the stomach plays an important rôle. The same can be said of the nervous system of the heart. The heart should always be carefully examined, even if absolute signs of a disease of this organ are missing. If such functional affections of the heart are missing, the prognosis is favorable. The therapeutics must attend first of all to the disturbed digestion. Besides, careful dieting, Faradisation, and massage are spoken of. But the symptoms of the heart should also be treated, rest in bed, digitalis. Under certain conditions disturbances of the stomach must be treated through the heart, and vice versa. A. Schmitt (*Berliner klinische Wochenschrift*, April 2, 1906; *New York Medical Journal*, May 5, 1906).

HEART-BEAT, CAUSE OF THE.

From a review of the many theories referring to the causes and mechanism of the heart-beat, the writer concludes that the immediate cause of the contraction of the heart is a chemical reaction, or a series of such reactions. In accordance with the knowledge of our day, it may be assumed that the first step in this series consists in the dissociation, the falling into pieces of a complex, unstable molecule, and that this dissociation is followed by an oxidation of the split products. But it seems equally probable or more probable that this initial step takes place really automatically or spontaneously, in consequence of

the instability of the substance in question. The author's own work has convinced him that the calcium salts are, in some way, of prime importance in this matter of the initial dissociation of the energy-yielding substance, but he does not believe that they act as direct chemical stimulus. Each contraction must be maximal, since it involves the dissociation of all the material existing in unstable form. The contraction must be rhythmic, since, after each contraction, a certain interval, which will be constant when the conditions are uniform, is needed for the production of more of the unstable material. In terms of the hypothesis, the refractory phase should pass off gradually as new, unstable material accumulates, and this is known to be the case, since a weaker stimulus is required to force the heart to contract the later it is applied in the diastolic phase. Whichever hypothesis may be correct, the writer remarks that we may congratulate ourselves at least that the labors of the experimental physiologists during the last quarter of a century have added to our store of knowledge this new and important fact, namely, that the inorganic salts of the blood and lymph play an essential rôle in the production of the heart-beat. W. R. Howell (*Journal of the American Medical Association*, June 9, 1906).

HEART-FAILURE AS THE RESULT OF DEFICIENT FOOD.

An insufficient amount of food, according to the writer, may result in heart-failure, and it may come on so insidiously that it is often far advanced before it is in any way recognized by the sufferer. It is known that a well-nourished patient may starve for thirty, forty, or even sixty days, without serious signs of collapse, if due care is exercised;

the physiology of this apparently being that the essential structures—the muscles of the heart and cells of the brain—are nourished at the expense of the other structures, from which a definite daily quantity is taken to provide the supplies of albumin. This may be called acute starvation; and if its duration is brief, it does little harm, because the heart-muscles and brain-cells are sufficiently provided for meanwhile. But if a condition of slow, steady, and constant deficiency of food is substituted, there comes a time when not only do the less important tissues suffer, but the heart-muscle and brain-cells begin to suffer with them to some extent. No doubt before this occurs many other tissues of the body, especially the muscles, have been largely drawn upon to provide the necessary nourishment. But after this has lasted for weeks, months, or it may be a year or more, there comes a time when the muscle of the heart participates in the general malnutrition and anæmia, and this is, or may be, a rather serious condition, because the actual continuation of life depends from moment to moment upon the entire functional integrity of that organ. The author prescribes 9 grains of albumin per day for each pound of body weight. Alexander Haig (*Medical Record*, May 26, 1906).

HYPERTROPHY OF THE PROSTATE, TREATMENT OF SENILE.

Catheterism, properly applied and at the right time, renders unnecessary many operations, without which patients would have been as well, if not better off. Modern technique and advance in the knowledge of prostatectomy make operation now justifiable which previously would not have been, with the former statistics and results as

guide. In moderately enlarged prostates, with slightly increased frequency in micturition and a moderate residuum, no local treatment is necessary, excepting it be massage, and then only in the glandular form. In patients of the poorer classes, or where aseptic catheterism is practically impossible, operation must be considered much earlier than where this is not the case.

The writer states that prophylactic or preventative prostatectomy cannot be recommended, as it may be a useless operation, looking toward an infirmity which may never arise. In the second stage, with a residuum of four ounces or over, after milder means have failed, the catheter is indicated; then sometimes patients will return to the first period, or, if not, at any rate the third can be avoided. With large residuum and sclerotic prostate, it may be advisable to operate.

In acute retentions, the catheter should be given a full trial before intervention, as catheterism, though impossible in a number of cases, can in others definitely reestablish the urinary functions for many years, no matter what the state of the prostate. In the third stage, if not too far advanced, catheterism may place the patient in the second stage again. But if impossible or inadvisable for any reason, operation should be resorted to if kidneys and general condition warrant it.

In the large non-contractile so-called "silent bladders," as also in the very small trabeculated and sacculated bladders with chronic cystitis (the sclerotic type), prostatectomy or prostatotomy is not, as a rule, warranted, as the patients are usually left as badly and sometimes worse off than before.

In chronic retentions, if the case is aseptic, catheterism is often preferable,

as the vulnerable period can frequently be gotten over without infection, though at the same time the outlook after prostatectomy (as also its risks and complications) should also be laid before the patient. But if the case is septic, and has been so for some time, and clean catheterism seems powerless to eradicate its effects, operation is indicated. John Van der Poel (*Medical Record*, May 26, 1906).

INFLAMMATION, IMPORTANCE OF ANÆSTHESIA IN TREATMENT OF.

The author is convinced that inflammations are favorably influenced when the pain is reduced by artificially-induced anæsthesia. He believes that it is possible to prevent inflammation by preventing the development of painfulness in a wound. By the use of local anæsthetics, he states, it is possible to abolish the pain, and wounds heal without inflammation; or, if there is already inflammation, it rapidly subsides. By abolishing the reflexes emanating from the focus of inflammation through the centripetal sensory nerves, it is possible to prevent the development of inflammation, or to cure it if already existent. The anæsthetization should affect only the sensory nerves, and should not disturb the normal play of the vasomotor nerves. As irritation of sensory nerves induces hyperæmia by reflex action, so suppression of such irritation (by local anæsthesia) prevents the development of the hyperæmia, or abolishes it if already present. A number of experiences and arguments are given to sustain this view, suggesting that the beneficial action of passive congestion may be due to its anæsthetizing properties. All writers on the subject mention the prompt relief from pain as its most constant feature. In treatment of inflam-

mation, the focus must be kept thoroughly and permanently under the influence of the local anæsthetic, which must come into intimate contact with the focus throughout its extent. Repeated insufflation of a local anæsthetic, every five minutes, will abort incipient sore throat or coryza, and by injection will abort furuncles and styes. The criterion is the subjective relief from all disagreeable sensation from the focus. When this is accomplished and kept up, the inflammation rapidly subsides. G. Spiess (*Münchener medizinische Wochenschrift*, Bd. liii., Nu. 8; *Journal of the American Medical Association*, May 5, 1906)

JOINT DISEASES OF CHILDREN.

The writer considers early diagnosis is the most important of all considerations. Physicians are responsible for a large majority of joint destructions, chiefly from carelessness or indifference in the examination of their patients. A child with any peculiarity of gait or carriage should be examined naked. The thought that pain in a single joint in a child means rheumatism should be abandoned. A limp, or peculiar gait, with rigidity of periarticular muscles, in a child, always means some form of invasion, probably tuberculous, possibly septic. Tuberculous infection should be aborted by immediate absolute rest, and fixation of the joint. The patient should remain out of doors, day and night, for a long period of time. Wise conservatism consists in the prompt application of all methods of relief, whether hygienic, mechanical, or surgical. In children conservatism should be the rule, since youth has remarkable recuperative power. In adults, however, operative measures are much more frequently demanded. A limb that can

readily be saved in a child, in the adult will demand amputation. If an operation will best accomplish a cure, such operation is true conservatism. In septic cases following streptococcic, staphylococcic, pneumococcic or gonococcic infection, opening should be made early and freely. De Forest Willard (*New York Medical Journal*, June 23, 1906).

JOINT INFECTIONS.

Acute infections of the joints of undoubted bacterial origin occur in all grades of severity in connection with many infections. As a rule, any one, or two, or three types of joint-inflammation may occur in connection with any one infection, no one type of joint disease constantly accompanying any one infection. In many cases the source of infection cannot be established, and in such cases the importance of remembering the function of the tonsils and the presence of pyogenic bacteria in the mouth as a ready source of infection is of importance. That acute articular rheumatism is an infection seems probable from bacterial and especially from clinical evidence, but this cannot yet be regarded as definitely proved. R. W. Lovett (*Boston Medical and Surgical Journal*, May 24, 1906).

MALIGNANT TUMORS, EARLY DIAGNOSIS OF.

The writer gives the following characteristics suggestive of early malignancy of tumors of the breast, uterus, and stomach: 1. Rapid growth. 2. Tendency of the tumor to invade surrounding tissues. 3. Pain, spontaneous, and of a lancinating and paroxysmal character, was long considered characteristic of malignancy, but is misleading. Pain is not characteristic of early can-

cer. 4. Too much importance should not be given to retraction of the nipple in cancer of the breast. Redness, œdema, nodular development, ulceration, involvement of lymphatic glands, and the development of the characteristic cachexia are late symptoms which should not be waited for before having recourse to radical treatment. Early examination in suspected cancer of the uterus and an early resort to exploratory operation in suspected cancer of the stomach are to be recommended. A. A. Landry (New Orleans Medical and Surgical Journal; June, 1906).

MENINGITIS IN INFANCY.

The picture of meningitis in infancy is materially different from that of meningitis in childhood and from that given in most textbooks. The tubercular form has a more sudden onset and a shorter course than in later life. The symptomatology of the tubercular and cerebrospinal forms is essentially the same at this age, although the symptoms of spinal and, to a less extent, of cerebral irritation are, on the whole, more marked in the cerebrospinal. These differences, however, are insufficient to justify a differential diagnosis. The history or presence of a reasonable cause for the tuberculous form points strongly to this disease, but such evidence is frequently entirely wanting. A positive diagnosis between the two forms is impossible on the symptomatology, and can only be made by an examination of the cerebrospinal fluid obtained in lumbar puncture. Lumbar puncture has no curative value in cerebrospinal meningitis, but it is very useful for the relief of symptoms in both forms. J. L. Morse (Journal of the American Medical Association, June 23, 1906).

NERVOUS CENTRAL REGENERATION.

Animal experiments fail to provide conclusive data that central tracts of the nervous system ever regenerate so that the former function is restored. In warm-blooded animals, and in the human species in particular, an abortive attempt on the part of the cord to regenerate is largely if not solely confined to fibers of undoubted peripheral type.

Histological analysis of cases of hemisection, compression paraplegia, and myelitis, and the like destructive lesions of the cord, fails to show positive evidence that actual structural regeneration of axis cylinders ever occurs in the central nerve-tracts of the human spinal cord. In case of complete division of the brain and spinal tracts there is simply degeneration, followed by sclerosis. A most acceptable reason for non-regeneration of such tracts is shown in that the compressed nerve-fibers do not possess a neurilemma sheath, from which nerve regeneration mainly, if not solely, occurs. This lack in cord and brain tracts, in contrast to the regenerating peripheral nerves, is due possibly to a difference of embryological origin for these two structures of the nervous system.

The cases cited by Stewart and Hart for cord regeneration either do not fulfill the conditions of the test, being merely hemisections, or the evidences for regeneration are not definite or convincing. The two structures reported by Stewart and Hart and Fowler are good illustrations of this type. In cases of complete transverse division of the cord there is no sufficient justification either from experimental or clinical data to warrant suture of the spinal cord in an attempt to cure the defect. L. P. Clark (New York Medical Journal, June 2, 1906).

**PERITONITIS, CHRONIC, CONSTIPATION
IN.**

Constipation is believed by the writer to be due under many circumstances to more or less latent chronic inflammation of the peritoneum. To prove his point he records a list of cases showing (1) the frequency of intestinal paresis in chronic inflammation of the peritoneum, and (2) the frequency of disappearance of the paresis after removal of the inflamed part. In the list of cases are 6 instances of appendicitis, 4 of salpingitis, and 3 of cholecystitis. In two cases constipation had preceded an acute attack of appendicitis by from ten to twenty years, and was cured by removal of the appendix. In a case of salpingitis due to gonorrhœa, the mischief seemed to be confined to the appendages of the left side, which were accordingly removed. The constipation persisted, however, till the right tube and ovary had also been removed on account of inflammation. The author does not deny that constipation may be due to the mechanical pressure of adhesions, but in the course of his observations he has not found the characteristics of this form, such as localized pain and gurgling, partial abdominal distension, and the alternation with diarrhœa. He believes the explanation is rather to be found in Stokes's law, "that muscle subjacent to a serious inflammation is more or less paralyzed." He would seek, therefore, in every case of chronic constipation, for localized tenderness, and even in default of any acute attack, would remove the appendix to relieve the constipation, provided that the tenderness, however slight, was constantly present over McBurney's point. In the cases of tenderness over the gall-bladder and uterine appendages, where the symptoms are not severe

enough to justify removal, the ordinary purgatives are not indicated, but rather measures should be adopted to counteract the intestinal paresis, such as massage, the administration of strychnine, and, above all, the use of large enemata of hot water, which act as sedatives to the inflamed tissue. Villard (*Lyon Médical*, April 29, 1906; *British Medical Journal*, June 2, 1906).

PHAGOCYTOSIS AND OPSONINS.

The writer states that at present we may accept as an established fact that phagocytosis of many bacterial and other cells by the leucocytes, in the first instance, is dependent on special substances, normal and immune, which become attached to the cells in question, and in some manner so change them that they are taken up readily by polynuclear leucocytes in vitro. Wright and Douglas have shown the presence in blood and other fluids of such certain substances, which they called opsonins. By means of experiments giving comparable results, it has been found that the variable factor is the serum, and not the leucocytes. The sera of the higher animals normally contain opsonin for many different bacteria. Thus, normal human serum contains opsonin for staphylococci, streptococci, pneumococci, meningococci, gonococci, influenza bacilli, diphtheria bacilli, anthrax bacilli, tubercle bacilli, typhoid and colon bacilli, the comma bacilli, the pest bacillus, and probably many other pathogenic and non-pathogenic bacteria. Whether this wide range of opsonic action is dependent wholly on a common opsonin, or on several more or less specific opsonins, has not been determined. It was later shown that the blood of certain animals immunized with blood contains a substance that, by acting

on blood corpuscles, renders them subject to phagocytosis by leucocytes. Immune opsonins may be regarded as acting primarily on the bodies against which the animals have been immunized. Phagocytosis is essentially amoeboid motion, enclosing or partly enclosing the object within the phagocyte.

The action of the opsonins may be defined to consist in so changing bacteria and other cells that these, by chemical, electrical, or mechanical means, diminish the surface-tension of leucocytes, and thus bring about phagocytosis. Again, there also takes place under certain circumstances the production of specific antiopsonins, which may diminish or inhibit normal phagocytosis. The important question is the value of the opsonic index in the successful treatment of infections by means of the inoculation of bacterial vaccines. These vaccines should be administered when the opsonic is high, and in properly adjusted and interspaced doses; in other words, by controlling the effects by means of the opsonic index, to maintain the antibacterial power of the blood at a high level. The reason why opsonic action of normal and immune serum is to be regarded for the present as connected with distinct bodies may be summarized as follows: 1. Normal serum may possess lytic power, but not opsonic, and vice versa. 2. Immunization may give rise to opsonic substances, but not to lytic or agglutinating. 3. Heat may destroy opsonic power, while the lytic amboceptors remain intact, and vice versa. Ludwig Hektoen (*Journal of the American Medical Association*, May 12, 1906).

PHTHYSIS, NOSE AND THROAT IN.

The etiology of pulmonary phthisis may be similar to that of tuberculous

infiltration of the glands of the neck; in fact, the lungs may be directly infected from disease of the lymphatics in this situation. The writer believes that there is no doubt that the source of infection in tuberculosis of the cervical glands is generally through the faucial ring of lymphoid tissue. This lymphoid tissue would appear to be placed in the fauces as a defence against micro-organisms, and possibly it acts as such in health. Be that as it may, it is certain that when diseased it is a fruitful source of danger, and enlarged glands in the neck are usually associated with hypertrophy and chronic inflammation of the faucial and naso-pharyngeal tonsils. If pulmonary phthisis is due to infection by the same paths, careful attention to these structures, and their timely removal when diseased, become vastly more important. Harold Barwell (*Practitioner*, June, 1906).

PNEUMONIA, OCCURRENCE AND PROGNOSIS OF.

The writer states that pneumonia, in a measure, ranks with the degenerative diseases. If people live long enough and become feeble from age, and escape death from epidemics, or any of the infections, the contraction of pneumonia is one of the things particularly liable to occur. Damage to the kidneys and circulation, such as comes from high living or overwork, predisposes to fatal pneumonia. The writer declares that clinically it does not seem to him that the infectiousness of pneumonia is very marked. It has not at all been proved, he thinks, that a particular germ is the cause of pneumonia. The prognosis depends to a great extent on the previous life-history of the patient, as well as on the cause of pneumonia. Pneumonias that occur as terminal conditions are

necessarily extremely fatal. The prognosis in a case of mild pneumonia affecting one lobe in a previously healthy and robust person is very good indeed. The prognosis of those patients who are in a class between these extremes is doubtful. Blood-examination is a matter of much importance in prognosis. L. F. Bishop (Medical Record, May 26, 1906).

PNEUMONIA, RESOLUTION IN.

The writer's researches have demonstrated that the resolution and absorption of pneumonic processes and their relics are governed by the tension of the oxygen in the dead tissues. As this is in turn regulated by the condition of the vessels, the final outcome of the process depends on the extent to which the vessels have been injured by the disease. These facts suggest the usefulness of oxygen as a therapeutic measure, and of drugs to act on the heart and vessels. The tubercle bacillus finds a favorable soil in the relics of pneumonic processes, and it has further an additionally injurious action on the blood-vessels. The benefit of iodine preparations in tuberculous processes may be due to the special action of iodine on the blood-vessels. Passive congestion, according to Bier, may also owe its efficacy to its activation of the blood, including livelier oxidation. It is possible, the writer thinks, that the Bier method might be applied successfully to the internal organs. Tuberculous pneumonia seems to indicate such treatment, and here, as also in croupous pneumonia, more active treatment seems to promise better results than the hitherto more expectant measures. V. Schläpfer (Beitrage zur Klinik der Tuberkulose, Bd. v, Nu. 1; Journal of the American Medical Association, June 23, 1906).

POSTOPERATIVE ILEUS.

Broca's classification into early and late varieties simplifies the diagnosis. In the former class, which so frequently is associated with peritonitis, the different diagnosis as to variety is always difficult and often impossible. In the latter, which is composed almost exclusively of the mechanical form, it is usually easy. Adhesions are the chief factor to be reckoned with in an attempt to prevent the occurrence of postoperative ileus, and efforts directed toward this end are likely to be productive of the best results. That drainage exercises a marked influence in the production of adhesions cannot be denied.

Prompt operation is indicated in the treatment of every case after palliative measures have been given a fair trial and have failed. The character of the operation depends upon the nature of the obstruction and the condition of the patient. The prognosis is unfavorably influenced by the presence of infection. In its absence it is excellent. J. M. T. Finney (Annals of Surgery, June, 1906).

PRETUBERCULAR CONDITIONS.

The writer believes that the pretubercular stage of phthisis, as it is now classified, is in the vast majority of cases only a latent unrecognized tuberculosis and that the development of the bacillus tuberculosis is in many a problem of cell-nutrition, the biochemic phenomena of which are not understood. Sharp lines of demarcation between the pretubercular and incipient stages can not be drawn. Among the leading symptoms of the former he lays stress on a progressive loss of weight accompanied with a general malaise and sometimes also acceleration of the pulse. When these symptoms are present with-

out other definite signs, and acute and chronic diseases can be excluded, a true latent tuberculosis exists. Chest measurements and vital capacity should then be carefully tested and the conditions of lymphatism and digestive disturbances, which may exist, be looked for. The writer specially calls attention to the relation of the chloranæmias to the development of phthisis. The constant association of anæmic blood-change with imperfect chest development and progressive loss of weight is very noticeable, the hæmoglobin being diminished out of all proportion to the loss of red cells. A recognition of this sign, like pleurisy, as frequently only the initial evidence of a slumbering tuberculosis, would prompt the recourse to the hygienic and medicinal measures that would produce a complete recovery. In these cases the hypodermic administration of iron and arsenic is recommended, the former in the form of the green ammoniated citrate in doses of from .05 to 1 gram, and of arsenate and soda .001 to .002 gram, starting with the smaller dosage. A blood examination should be made, after which punctures may be given daily. The good effects are quickly manifested, and an increase of 5 to 10 per cent. hæmoglobin a week can be expected. Attention is likewise called to two prominent characteristics of the pulse in the pretubercular stage; the slight variation on change of position noted by Wells and Loomis, and the relative feebleness of arterial pressure. In conclusion, the author remarks that while no one or two signs are conclusive, yet, taken together, there are enough danger signals to give a warning. Hypodermic medication with iron, arsenic, hypophosphites, and strychnine offers a valuable adjunct to the necessary pure air, good food, and

sensible hygiene. R. R. Shurly (Journal of the American Medical Association, June 16, 1906).

PRURITUS ANI; ITS ETIOLOGY AND TREATMENT.

The exciting causes of pruritus ani are classified by the author as follows: (1) Ulcerations or abrasions of the anal canal; treatment, cocaine anæsthesia, galvano-cautery, vaseline, opium suppository. (2) Local catarrh; treatment, soft evacuations should be secured by aperients, the bowel washed daily with a four per cent. boric acid solution, stimulating nitrate solutions or Peruvian balsam being applied to any abrasions or ulcerations. (3) External hæmorrhoids; treatment, removal under eucaïne anæsthesia; if the base of the pile is broad, it is better to close it with catgut sutures, otherwise it may be allowed to heal by granulation. (4) Pockets in the mucosa above Hilton's white line; treatment, swab out with balsam or silver. (5) Small polyps of the anal canal, protruding internal piles, prolapse of the rectum, and anal fissures, as well as other conditions, do doubtless occasionally cause itching about the anus; but very seldom in the writer's experience are they the cause of any old chronic or inveterate pruritus ani. When encountered, together with pruritus, they should be dealt with according to their special surgical indications. To bring about the renewal of skin which is tough and leathery and covered with dead and sodden epithelium, the author has found nothing better than silver nitrate solution and citrine ointment. T. C. Hill (Boston Medical and Surgical Journal, May 24, 1906).

RECTAL AND ANAL AFFECTIONS, NEW SYMPTOMS OF.

The writer has had occasion to observe a number of cases in which some slight irritation of the rectal mucosa, evidenced by hyperæmia, or fissure of the anus, caused special symptoms hitherto supposed to be characteristic of other affections. Among these symptoms are colic-like pains, and pains in the legs, and more specially pains such as have heretofore been regarded as peculiar to hip-joint disease. In men he has known a fissure of the anus to induce prostatorrhœa, and thus to simulate a gonorrhœal affection.

The author cures fissure of the anus by arresting the painful spasm by a cocaine suppository and salve. The relief from pain puts an end to the reflex contraction and the fissure then heals in peace under sitz baths three times a day and after stool, with local application of a salve, and measures to insure soft stools. One or two 0.01 gm. cocaine suppositories are used daily. The largest number ever required by the writer's patients was 22, healing generally being complete in about six days. Slight irritation of the mucosa around the anus, in infants, is sufficient to cause the symptoms mentioned. K. Svehla (*Jahrbuch f. Kinderheilkunde*, Bd. lxiii, Nu. 2; *Journal of the American Medical Association*, June 2, 1906).

SCARLET FEVER, TREATMENT OF.

The writer affirms that the essence of scarlet fever is the more or less complete suppression of the functions of the sweat-glands, thus causing serious auto-intoxication by the lack of the sweat-secretion and of normal elimination of waste matters by this route. In measles, the prognosis is better the more marked the rash; but in scarlet fever,

the reverse applies—the more extensive the eruption, the severer the case. The skin feels dry and parched; the skin in measles is always more or less moist, even in the patches of rash. The scarlet-fever rash is more like a burn, and feels as if varnished. The redder the skin, the graver the infection, the higher the temperature, the more serious the prognosis. The kidneys seem to be unable to act vicariously, and the amount of urine is rather below than above the normal limit. Treatment should aim to promote diuresis and attenuate the toxi-infection. The disease is self-limited, and drugs are useless, if not absolutely harmful, as they are liable to hamper the kidney-functioning. Instead of striving to promote the eruption, treatment should be with simple tepid baths, progressively cooled, and injections of artificial serum. Antidiphtheritic serum is not indicated and may do harm, as it has a tendency to interfere with kidney-functioning. Caffein citrate might possibly be used as a tonic for the heart and to promote diuresis, but all other measures except tepid baths and artificial serum should be avoided. N. G. Macrides (*Grèce Médicale*, Vol. VI., Nos. 31-34; *Journal of the American Medical Association*, May 19, 1906).

SENILE HEART.

The heart is the organ which is generally most affected by senility, but the symptoms suggesting its inferiority are usually masked by others which seem foreign to this organ. It may struggle along for years, handicapped by the unsuspected senile changes, and succumb at last abruptly. The fulminating end is apparently very sudden, but the struggle has been going on for years. The most common signs of senile

changes in the heart are shortness of breath and fatigue. There is no real pain, but merely a disinclination to make an effort. If the effort is made, it is followed by rheumatoid pains in the muscles involved. Rest banishes the pains, but they recur at the next effort, and may become permanent in time. They may be accompanied by slight dizziness, unstable balance, possibly even ocular troubles or actual languor, which cease during rest but recur at the slightest fatigue. General nervous troubles may be observed, taking the form of indolence or disinclination for the accustomed brainwork. The nervous system requires rest like the muscles, and demands it imperiously by recurring periods of somnolence. On the other hand, sleep at night is interrupted by waking frequently, or there may be actual insomnia. Slight gastric disturbances may also be observed. None of these symptoms point to the heart, and the only sign of the underlying trouble is possibly slight swelling of the ankles at night or after a long walk, and the composition of the urine. All the constituents of the urine will be found notably reduced in amount, although generally retaining their proportional values. A. Létienne (*Presse Médicale*, Vol. xiv., No. 31; *Journal of the American Medical Association*, June 9, 1906).

SERUM THERAPY BY THE MOUTH.

The author has used sera by the mouth for several years and claims remarkable results. Their action as thus employed is neither antitoxic nor antibacterial, but is best explained by the theory of increased tissue resistance. In other words, along with antitoxic and antibacterial resistance to infection, or alone when those elements are absent,

there is produced an increased resistance in the tissues to the pathogenic action upon them of the organisms present; that this produces what may be called a sterile soil without harmfully affecting the organisms themselves. This is present in active immunity, and can be transferred to the patient as passive immunity by the oral use of the serum in regular doses. Concerning the diphtheria antitoxin, the writer notes that there is in this disease a paralyzing agent acting mainly on the involuntary muscular system, and to resist that muscular depressant there is developed a muscle recuperative element in the serum, available by its oral use. There is also a proteolytic agent, causing the production of digestive action and leading to the formation of albumoses and other products of digestion, and to meet this there is produced in the serum an antiproteolytic power also available by oral use of the serum. In diphtheria the concurrent use of the serum by the mouth in doses of 1 drachm with the hypodermic injection materially assists the recuperative powers of the patient and leads to a rapid and complete recovery when given in time. D. M. Paton (*British Medical Journal*, May 5, 1906).

SKIN-GRAFTING, SIMPLIFICATION OF THE USUAL TECHNIQS OF.

The author describes his mode of skin-grafting, using the Thiersch graft, if possible taking it from the patient. The granulations are irrigated with hot saline solution, and the surface is freshened by a very gentle rubbing with an ordinary sterile nail-brush. This freshens the granulations without destroying them. The writer has abandoned the curette for this purpose. Hot saline solution and pressure quickly control the slight hæmorrhages. The grafts are

sliced off by sawing movements of a sharp aseptic metal-handled razor, half the thickness of the skin, half an inch wide and one and one-half inches long. As soon as cut the graft is turned over the end of the left index finger, skin side next to the finger, carried directly to the denuded site and pressed down on the surface with the finger, a small probe being used for smoothing and straightening it out. The author believes in direct transferring without saline or other solutions. The grafted site is covered with a thin rubber dam, criss-crossed for drainage if the area is large. A small gauze pad is placed over this, fastened with narrow strips of zinc oxide adhesive plaster; while externally cotton, gauze, and bandage are applied. Frequently it will be well to apply a splint or to encase the part in plaster of Paris, to secure immobilization. A slight degree of pressure will keep the grafts in contact with the part, prevent serum from collecting between the graft and the wound, and prevent bleeding. Too much pressure will promptly kill the grafts. J. E. Cannaday (*Journal of the American Medical Association*, June 2, 1906).

SYPHILIS, ATROPHY OF THE GLANDS AT THE BASE OF THE TONGUE AS A SIGN OF.

A correct decision in the diagnosis of syphilis is always important, though at times exceedingly difficult. The primary lesion may be overlooked or forgotten, and the secondary phenomena may be little marked and fail to attract attention; so that the question as to the nature of the antecedent disease may be raised only on the appearance of obscure tertiary symptoms or the development of grave parasyphilitic sequels. While the recognition of any disease

may at times be possible from the presence of one or perhaps a few distinctive symptoms, it is the part of wisdom not to reach a conclusion in this connection too hastily or without full consideration of all the data in any given case. Syphilis assumes many guises, and failure in its identification is to be avoided only through most careful observation and intelligent analysis of the evidence at hand. The clinician will therefore be grateful for knowledge of any symptom that helps to make or to exclude the diagnosis. A good many years ago Virchow pointed out a smooth atrophy of the follicles at the base of the tongue in cases of late syphilis, the glands normally present in that situation being diminished both in number and size. The histological alterations were supposed to result from injury to the glandular structure by the immigration or new formation of syphilitic tissue cells, with secondary death and extrusion of the cells; or perhaps from impaired nutrition of the glands in consequence of syphilitic endarteritis. The condition has since been studied by other investigators, with, however, somewhat contradictory results.

For the purpose of determining the usefulness of the sign in the diagnosis of syphilis during life, Dr. N. B. Potter (*Boston Medical and Surgical Journal*, March 8, 1906) made a study of upward of 300 cases of various kinds, finding the symptom present in about one-half of the patients exhibiting what was considered reasonable evidence of previous syphilis, and in fact only about 10 per cent. of cases without satisfactory evidence of previous syphilitic infection. The observations were made by palpation, as visual examination proved entirely untrustworthy. The patient is instructed to protrude the tongue as far

as possible, and it is grasped by the left hand of the observer with a piece of gauze or a soft towel, while the index finger of the right hand is carefully introduced along the dorsum of the tongue to the circumvallate papillæ. The territory behind the triangle of the papillæ is now delicately explored. From these observations the conclusion is reached that when the papillary glands at the root of the tongue are normal, syphilis is properly to be excluded, while typical atrophy of these glands in an individual below the age of fifty years is indicative of syphilis. On the other hand, a moderate or slight degree of atrophy is of little diagnostic significance. The observation is so readily made and the results it is capable of yielding are often of such great importance that the sign should be invariably looked for, so that its relative frequency and its value as a diagnostic sign may be placed on a firm basis. Editorial (Medical Record, June 2, 1906).

TABES DORSALIS, TREATMENT OF.

There are three groups of factors responsible for tabes, according to the writer, each of them furnishing its varieties. All, however, impair nutrition of nerve-tissues. The treatment must therefore begin by preventing impairment of nutrition, and when this has actually set in, by restoring nutrition. The first step to increase nutrition of the whole body is taken by placing the patient under most favorable conditions. Pure air, sunshine, congenial surroundings, plenty of sleep, and adequate occupation of mind and body, are most important. Salt-brine friction of the body, in a warm bath, at a temperature agreeable to the patient, twice a week, keeps the pores of the skin open and

promotes the circulation. Clothing must aim to keep the body comfortably warm, but not heated. Diet is the next step. It matters not what the patient eats, but what agrees best. The digestive power is generally impaired; slow eating and thorough mastication are, therefore, most essential. Liquids, to wash down the morsels, must be omitted; all solid food must be chewed until sufficiently liquefied by the saliva to allow deglutition. Concentrated food must be avoided, as it tends to overload the system with material which it cannot oxidize, and as it also tends to weaken the muscular power of the alimentary canal and to cause constipation and indigestion. To satisfy the want of the body for water, liquids must be taken between meals. Alcoholic beverages must be avoided, except when the wisdom of the attending physician finds that a temporary stimulation is needed for immediate action. There is no drug in existence which has any influence beneficial to the tabetic lesions, but the different organs should receive special attention. The heart with digitalis, ergot, and strychnine; digestion with muriatic acid, rhubarb, gentian, tincture of nux vomica, laxatives, etc.; the liver with fluid extract of iris versicolor, calomel with sodium bicarbonate. Electricity may stimulate appetite and digestion, as well as increase the nutrition of the muscular and peripheral nerves. When tabes is once well established, the writer states that all that can be hoped to be accomplished is to keep the patient comfortable and to prolong life. It is, therefore, of utmost importance to recognize tabes in its very incipency. Judicious treatment will then check the progress of the disease, and restore the involved structures to a normal, or to a practically normal condi-

tion. F. von Raity (Medical Record, May 19, 1906).

TABETIC DYSTROPHY.

The theory that the nutrition of the tissues is governed by special trophic nerves and centers distinct from those which influence their general functions, has been abandoned. Research has afforded no direct evidence of such nerves or centers. A study of the local dystrophies of locomotor ataxia indicates that the state of nutrition of the nerves influences that of the structure related to them. In the case of muscle the influence is exerted by the motor nerves; in other tissues, by the sensory nerves. The only certain element in tabes with which dystrophy can be associated is the altered state of nutrition of the sensory nerves. The only mechanism for the perverted nutrition which harmonizes with other known facts is that this determines an alteration in the process of nutrition, disturbing that which is primarily due to the vitality of the tissues themselves. It induces a derangement which, once set up, continues and increases. It is very rare to meet with a case of pronounced arthropathy in which marked changes are not evident in the cutaneous nerves. The conditions which would not prevent the recovery of a joint with normal nerves may be persistently harmful to one that is inflamed, however slightly, in a subject of tabes. The absence of pain permits the perpetuation of harm and is a grave misfortune. Pain often emphasizes the necessity for rest. W. R. Gowers (British Medical Journal, June 2, 1906).

TETANY, PATHOGENESIS OF.

The author holds that all forms of disease in which tetany appears have this in common—that the organism is

deficient in the epithelial bodies of the thyroid gland. The connection between the two is obvious where tetany follows disease or removal of the thyroid gland. In cases of tetany due apparently to gastrectasis, pregnancy, intestinal catarrh, worms, etc., he believes that there is always a latent lack of the epithelial corpuscles. He goes through the various affections in which tetany is seen, and argues in detail that the phenomena observed all correspond to what is known to occur in animals and man after the thyroid gland, and with it the epithelial corpuscles, have been removed. These are tetany, spastic contractures, lasting hours, days, or weeks, transient paresis with relaxation, intention-cramps (very analogous to those characteristic of Thomsen's disease), rapid fluctuations in the symptoms noted, and occasional epileptiform fits; the galvanic or mechanical hyperexcitability of the nerves known as Erb's, Trousseau's, or Chvostek's sign, is also always present; numerous trophic disturbances (heavy expression, loss of the hair and nails, cataract) seen after removal of the thyroid often occur in association with tetany. F. Pineles (Deutsches Archiv für klinische Medicine, January, 1906; Medical Chronicle, May, 1906).

TUBERCULOSIS, ANÆMIA IN.

The writer thinks that it is not a theoretical interest alone which attaches to the examination of the blood in the different forms of anæmia in the tuberculous. There is a practical application of it in connection with the diagnosis and treatment of tuberculosis. By supplementing the clinical investigation of a case by an examination of the blood, it has been determined that ochrodermia is not synonymous with anæmia,

and that the condition of the blood should be prejudged from the facial appearance of the patient. The different varieties of ochrodermia call for differences in treatment. Chlorosis, oligæmia, and ochrodermia without anæmia should not all be treated on the same plan. Thus chlorotic anæmia calls for respiratory hygiene and diet which will antagonize the infecting bacilli, and for arsenic and iron to improve the condition of the blood. Oligæmia in chronic tuberculosis demands the injection of a suitable serum and a diet which will be constructive in its effect, the object being to increase the vascular tension and the volume of the blood. On the other hand, in simple ochrodermia the use of iron is harmful, and will favor the development of digestive troubles. M. Labbé (*Revue de Médecine*, March, 1906; *New York Medical Journal*, May 12, 1906).

TUBERCULOSIS AND RECALCIFICATION.

The treatment of tuberculosis by the administration of salts and lime, as carried out by Ferrier, is described by the writer. It appears that those persons in whom the teeth and bones are deficient in lime salts are more liable to tuberculosis than normal persons; this decalcification Ferrier considers due to the action of acid or acid salts (hydrochloric, phosphoric, sulphuric); to organic acids, such as are contained in oranges and lemons, and to acids derived from fermentation in the stomach (acetic, lactic, butyric). In the tuberculous the acids arising from fermentation in the stomach are probably important because of decalcification, and this fermentation is no doubt produced by the excessive over-feeding which is often carried out by such patients. Ferrier's method of administering salts of lime is

carried out in the following manner: The stomach is emptied half an hour before each meal, and the patient takes a glass of strong bicarbonate-of-lime water, and at the middle or end of the meal he takes a cachet containing 40 gr. each of calcium carbonate and tribasic phosphate of lime, and 35 gr. of sodium chloride. The diet is also regulated as follows: Three meals a day only are allowed; wine, cider, beer, alcohol, butter, fats, oils, and acids are forbidden; very little sugar or pastry is allowed, and the allowance of bread must not exceed 300 grams per day. With this treatment Ferrier has obtained very good results. The author has been able to endorse Ferrier's views as to the benefits to be derived from this method of treatment; he finds that, although the patient may not put on much flesh, yet the tuberculous lesions become "drier" and more limited, and a great increase of appetite occurs. Further, in support of this plan of treatment, a colleague of the author has found that there is a diminution of tuberculosis among the people working or living in the neighborhood of lime kilns, and due, he supposes to the inhalation of particles of lime in the form of a powder. Louis Rénon (*Journal des Practiciens*, April 28, 1906; *British Medical Journal*, June 2, 1906).

TUBERCULOSIS OF THE LUNGS, ANOREXIA OF.

If anorexia be dependent upon pyrexia, the author advises that an antipyretic drug be administered about one hour before the time of taking food, and he has found pyramidon or antifebrin the best drug for this purpose. If the temperature curve is very irregular, the chief meal of the day should be taken at the time when the temperature of the body is lowest. Cough—a com-

mon cause of loss of appetite, if occurring at meal times—gives rise to shaking of the stomach, nausea, and sometimes vomiting. For these patients the author advises the administration of small doses of dionin a quarter of an hour before meals. Inability to take sufficient food may be due to tubercle of the epiglottis or arytenoids, which renders swallowing painful. These conditions must be suitably treated, to enable the patient to swallow comfortably. Imperfect state of the teeth and neglect of the state of the mouth, chronic gastric catarrh, ulcer and cancer of the stomach, and nervous dyspepsia may all give rise to loss of appetite; swallowing of the sputum may also do the same, and for this condition lavage is the best remedy. Constipation and diarrhoea, both frequent causes of anorexia, must be suitably treated, the former by the administration of laxatives, and the latter, dependent as it may be on chronic intestinal catarrh and tuberculous ulceration of the mucosa, by a suitable dietary, and by preparations of intestinal astringents, such as bismuth, and by opium. Intestinal parasites, marked anæmia, and disease of the female generative organs may also cause loss of appetite; they must be treated in the appropriate ways.

Of medical means for the improvement of the appetite, the author has found that of the bitters orexin has been most serviceable, increasing the sensation of hunger and aiding digestion. Of other stomachics the author mentions the spices, broth obtained from cooking of salted meats, preparations of blood, creosote in small doses, lysol (recently used by Burger in cases of tuberculous disease in children), and lastly, alcohol in small doses. In febrile cases, if the administration of an antipyretic does

not have the desired effect in diminishing the anorexia, the author recommends that a little dilute hydrochloric acid should be given. He thinks it better, however, to administer some gastric juice obtained from a dog's stomach. Of all methods employed to arouse a flagging appetite in patients suffering from tuberculosis of the lungs, the author considers the following the most reliable: The patient should be made as happy and contented as possible; he should have an abundance of fresh air, and, in certain cases, gentle exercise; he should be given a course of arsenic. Haedicke (*Therap. Monats.*, March, 1906; *British Medical Journal*, June 9, 1906).

TUBERCULOUS PLEURISIES, SERO-PROGNOSIS OF.

From the study of 115 cases of tuberculous pleurisy with effusion, followed during seven years, and from the investigation of the mortality of these patients, the author concludes that the mortality is about 25 per cent. in cases the pleural effusion of which has agglutinating power, and 75 per cent., on the contrary, in those in which the fluid has no agglutinating power. Among patients with an agglutinating effusion the number of recoveries is large in proportion as the agglutinating power is high. The agglutinating power of the effusion can be observed to increase in proportion as the case progresses to recovery, and, on the contrary, diminish in those patients in whom the termination is near. The writer considers these facts as a new proof of what he has held concerning typhoid fever, viz., that the agglutinating reaction is a reaction of defence, or at least goes parallel with the reaction of resistance of the organism. It is, in general, in inverse propor-

tion to the gravity of the disease, and in direct proportion with the intensity of the resistance. The study of agglutination in tuberculous pleurisy leads to important prognostic conclusions. Paul Courmont (*Journal of the American Medical Association*, May 19, 1906).

URETHRITIS, RATIONAL TREATMENT OF,

The so-called abortive plan of the treatment of acute urethritis is condemned by the writer, as well as the so-called expectant plan of treatment. Not less reprehensible, he states, are the remedies in vogue at present. Prominently among these figure the "alkaline diuretics." The author claims that alkalies, when absorbed, are completely destroyed as far as the acid radicle is concerned, being converted into normal chlorides or salines and not carbonates, and he states that they exert beneficial effect on the inflamed urethra, not as alkalies, but as diluents and diuretics. The therapeutic value of boric acid and salol is also doubtful; balsamics are condemned, presumable benefit from these remedies being due to the water taken in them. In the acute stage the patient should take plenty of water, avoiding alcohol, tea and coffee, and should be flushed with a normal saline solution by means of the Valentine douche or similarly devised apparatus, with a good valve attachment to regulate the flow. The apparatus should not be elevated higher than six feet. The urethra having been cleansed, 20 minims of a solution of adrenalin (1 in 1000) should be instilled through an ordinary bulb eye-dropper into the canal, retained five minutes, and allowed to escape. The saline irrigations should be continued once or twice daily for ten days, after which potassium permanganate should be substituted in ascend-

ing strength, 1 in 10,000 to 1 in 1000 at the end of the third week. By this time the discharges will have ceased, or nearly so, and a prescription of zinc sulphate, adrenalin, and colorless fluid extract of hydrastis in distilled water may be used, which, in a short time, will check it completely. Three weeks suffice in the majority of instances to effect a cure.

The treatment of the chronic form of urethritis is more difficult, tedious, and complicated than that of the acute variety. The author recommends an injection of a solution of protargol (5 per cent.), together with adrenalin chloride and Magendie's solution of morphine if necessary. In some cases silver nitrate acts more favorably than other silver compounds. Irrigations with potassium permanganate or zinc sulphate may be useful. The introduction of sounds is indicated: First, in incipient and formative stages of stricture; second, in involvement of the posterior urethra without implication of its adnexa; third, as a powerful stimulant to the urethra in catarrhal treatment affecting its anterior segment, where no gonococci are demonstrable.

The author recommends urethroscopy for table practice, as a means of diagnosis and as a therapeutic auxiliary. The value of internal treatment in chronic gonococci urethritis is questionable. The proper treatment in all cases depends on determination of the seat of the lesion. The three-glass test of the urine should be used, and a sound introduced to detect strictures and diverticula. Rectal examination is imperative in nearly all cases, and search must be instituted for possible diseased conditions of Cowper's glands, as this is apt to cause an obstinate urethrorrhœa. Folliculitis of the urethral mu-

cosa may produce a mucopurulent discharge. Meatotomy and circumcision should be performed in proper cases. Affections of the bladder, ureters and pelvis of the kidneys, or of the kidney itself, must attract attention as possible causes in all ultra-chronic cases. Cystoscopy and, if necessary, ureteral catheterization should be performed before definitely arriving at a diagnosis. In conclusion, the author remonstrates against unscientific methods of treatment and the failure to recognize the gravity of gonococcic urethritis. The treatment undertaken by the physician must be in conformity with the most modern principles governing it. N. E. Aronstam (*Journal of the American Medical Association*, June 2, 1906).

UTERUS, RUPTURE OF THE.

The writer reviews his experience with a number of cases of rupture of the uterus, and discusses the diagnosis. In the first place, he states, whenever there is dystocia, no matter how slight, the possibility of rupture should be borne in mind. It must be sought for, as whenever it causes symptoms that attract attention the trouble is already irreparable. It is especially liable to occur with face, shoulder, and breech presentations, in women who have borne many children, in twin pregnancies, and in case of contracted pelvis. In one-half or one-third of all cases under his observation the trouble has been the result of hydrocephalus or encephalocele. Whenever the obstetrician has had occasion to interfere in the delivery, he should seize the opportunity to verify the integrity of the uterus.

The most important sign of a rupture is the sudden exclamation of the patient during the course of labor, a cry of

sharp pain, and sometimes an exclamation that "something has broken loose inside." This is followed by a deceptive calm—the labor-pains generally stop at once when the uterus ruptures. The exclamation of pain may not have attracted the attention of the attendants, but the arrest of the labor-pains is generally noticed and is a valuable aid in differentiation. Hæmorrhage generally does not appear with the onset of labor, but is noted after twenty-four or forty-eight hours or longer. It may occur and be very severe as the child is delivered, and the compression on the walls and arteries is thus suddenly removed.

Another important sign is the painfulness on pressure of the lower segment of the uterus, in the iliac fossæ toward the superior strait or a little lower, contact of the parts other than the skin causing extreme pain. The author remarks that if he had trusted to this sign and operated at once he might have saved one of his patients who succumbed.

He believes that many instances of supposed puerperal fever are in reality cases of unsuspected and infected rupture. This may be surmised when hæmorrhage occurs secondarily from suppuration of the wound of the rupture and erosion of the arteries, such hæmorrhage appearing after the third day or later, sudden, brief, recurring, and sometimes occurring at night. Accumulation of blood in the pelvis may cause severe pain from irritation of the peritoneum or compression of nerves. As it is impossible to say what will become later of a ruptured uterus, the writer advocates prompt hysterectomy, before infection has had a chance to develop. R. de Bovis (*Semaine Médicale*, Vol. xxvi., No. 17; *Journal of the American Medical Association*, June 2, 1906).

Books and Monographs Received.

The Editor begs to acknowledge, with thanks, the receipt of the following books and monographs:—

"Proceedings of the American Medico-Psychological Association at the Sixty-first Annual Meeting," held in San Antonio, Texas, April 18-21, 1905.—"Catarrhal Deafness, with a Report of 400 Chronic Cases." By Sargent F. Snow, Syracuse, N. Y., 1905.—"An Operation for the Cure of Chronic Dilatation of the Stomach, with a Report of a Case." By H. J. Donaldson, Williamsport, Pa., 1905.—"As to Proprietary Medicines." By Deering J. Roberts, 1906.—"A Study of the Cause of Sudden Death Following the Injection of Horse Serum." By M. J. Rosenau and John F. Anderson. Public Health and Marine-Hospital Service of the U. S., Washington, D. C., 1906.

From the United States Department of Agriculture the following: "Texas or Tick Fever, and Its Prevention." By John R. Mohler, 1906.—"Soil Fertility." By Milton Whitney, 1906.—"Investigations in the Manufacture and Storage of Butter. L.—The Keeping Qualities of Butter Made under Different Conditions and Stored at Different Temperatures." By C. E. Gray. "With Remarks on the Storing of the Butter." By G. L. McKay, 1906.—"Grades and Amount of Lumber Sawed from Yellow Poplar, Yellow Birch, Sugar Maple, and Beech." By Edward A. Baniff, 1906.—"Preparation of Vegetables for the Table." By Maria Parloa, 1906.

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Editorials.

DEPARTMENT IN CHARGE OF

J. MADISON TAYLOR, A.M., M.D.

ON THE BLOOD-GLANDS AS PATHOGENIC FACTORS IN THE PRODUCTION OF DIABETES AND OBESITY.

I.

REMARKS ON THE INFLUENCE OF THE BLOOD-GLANDS UPON THE PROCESSES
OF METABOLISM.

THAT our external appearance, and the attributes of sex, are the outcome of the internal secretion of the reproductive glands, has been urged by several authors:

Halban,¹ Ribbert,² Foges,³ Sellheim,⁴ A. Loewy,⁵ and recently in a very convincing way by Shattock and Seligmann.⁶

Infants and young children of both sexes have very much the same appearance, and in many cases it is only possible to detect a difference in their external appearance after the advent of puberty. After the climacteric age, however, this differentiation may disappear: women may acquire some of the attributes of the male sex—*e. g.* moustache and male voice; and at times it is difficult to tell the sex by the outward appearance. If infantilism is attributable to the non-development of certain blood-glands, senility is also related to changes in the same. According to Sir Victor Horsley⁷ and Vermehren⁸ senility is due to degeneration of the thyroid. I consider, moreover, that primary degenerations of other blood-glands produce the symptoms of senility in a secondary manner.⁹

Aged persons have been compared to infants; the comparison is confirmed by the fact that in the aged, colloid substance is scarce in the degenerated thyroid, or sometimes entirely absent, whilst in the thyroid of infants it has not yet appeared or is present only in very small quantity.

Milk food is the best in both cases, as also in all myxœdematous conditions brought about by disease of the thyroid, or by surgical operation, or experiment. The sexual glands and the thyroid also influence the growth of the skeleton; for if the sexual glands are removed, the extremities become abnormally long—*e. g.* in eunuchs. Poncet¹⁰ also produced this condition experimentally in the hind legs of rabbits.

Similar phenomena also occur in infantilism (type Lorrain) in which, according to Hertoghe,¹¹ the thyroid plays a considerable part in addition to the atrophy of the testicles. Alterations in the growth of the skeleton have also been shown to occur after castration by Sellheim; whilst Lounois and Roy¹² have found an abnormal persistence of the epiphysal cartilages in persons with atrophied testicles, and Poncet has found the same condition in castrated guinea-pigs and cocks. The same phenomenon has been noted by Hertoghe, Springer, and Serbanesco,¹³ Gasne and Lande,¹⁴ Légoy and Regnault,¹⁵ and lastly by Jeandelize¹⁶ in athyroidean conditions. Hertoghe¹¹ in such cases, by giving to children thyroid extract, produced marvellous growth—as shown by illustrations in his interesting monograph. Gauthier¹⁷ has shown satisfactorily the effects of the thyroid upon the production of callus after fractures. I should like to point out here, to illustrate certain facts that I shall mention later, that diabetes has, as far as I know, not yet been observed in cases which show the above conditions. On the other hand, tuberculosis is more often met with in children who are backward in physical and mental growth on account of thyroid deficiency inherited from parents with cachectic diseases—*e. g.* syphilis, tuberculosis, malaria, etc. This fact points to the antagonism existing

between diabetes and tuberculosis, a point upon which I have already insisted;¹⁸ diabetic persons may become tuberculous, but tuberculous persons very seldom become diabetic or gouty. Thus, if thyroid deficiency predisposes them to tuberculosis, they seem to possess a certain immunity to diabetes and gout. A fact that makes this clearer is that Perrando¹⁹ has found degeneration of the thyroid in the foetus coming from parents with cachectic diseases, especially syphilis. Garnier²⁰ has also found that the thyroid in hereditary syphilis is degenerated and contains no colloid substance at all.

It seems that children coming from such parents have a diminished immunity against infectious diseases, for tuberculosis, as was mentioned above, readily develops in them. This is connected with the fact that in myxœdema (athyroidea) tuberculosis appears frequently, as shown by Greenfield²¹ and Byrom Bramwell;²² according to Pel²³ tuberculosis is very frequent in the families of myxœdematous persons.

Experiments also illustrate these facts. Thus it has been found by several authors that animals whose thyroid has been extirpated easily fall victims to infective processes. The great part taken by the thyroid in infections is shown by the researches of Bayon of Würzburg²⁴ and de Querrain, which establish the fact that in all grave infectious diseases the thyroid is in a condition termed by them "thyroiditis simplex" without any suppuration. Roger and Garnier²⁵ had found previously to the former authors a hypersecretion of colloid in the thyroid in infectious diseases, which after some time may be followed by exhaustion of the gland. Logically there must be symptoms in infectious diseases indicating clinically the pathological changes in the thyroid. In my previous works²⁶ I have pointed out that in most cases of infectious disease symptoms occur which indicate an increased function of the thyroid, that is, symptoms of hyperthyroidia which resemble to a great extent those of Graves's disease, such, for instance, as hyperthermia, tachycardia, sometimes slight exophthalmos, perspiration, occasionally diarrhœa, and diuresis, sometimes amounting to polyuria. Hyperthermia may often be very pronounced in Graves's disease. A short time ago I saw in the wards of Dr. Hector Mackenzie a young girl with Graves's disease lying on the open balcony of St. Thomas's Hospital facing the Thames in mid-winter (although not on a very cold day), with her cheeks crimson red and very hot, a condition quite the contrary to that in myxœdema. These symptoms of infectious diseases indicate, I believe, a natural remedy of powerful character; the hyperthermia followed by transpiration, by diarrhœa, and by polyuria is an endeavor to eliminate noxious agents. Symptoms such as those shown here are the necessary consequence of disease, and very often they are the expression of self-defence. If we were only to follow Nature, we should not check her healing tendencies by means of antipyretics.

To complete my remarks on the problem of heredity and immunity, I may mention that in my previous works²⁷ I have tried to show that we inherit the pathological characters of the blood-glands from our forefathers. Put into practical words, this means that persons having inherited healthy blood-glands, including a good working thyroid, will have more immunity against infective diseases than others. These assertions seem to be confirmed by the recent experiments of Professor Lanz,²⁸ the late assistant of Professor Kocher, of Berne. On removing the thyroid of animals he has found that their descendants remain backward in growth. Similar results appear in children of parents with diseases of the thyroid—*e. g.* goiter. The children of cretinoid parents, as a rule, develop neither physically nor mentally, but by giving them thyroid extract we see wonderful results in growth and mental ability. From symptoms seen in animals the thyroid of which has been extirpated, and, on the other hand, in persons who have been treated with thyroid extract, we must come to the conclusion that the thyroid influences the functions which, according to our present physiological ideas, we connect with the cortex of the cerebrum—*i. e.* intelligence, will power, imagination, memory, sleep, etc. In fact, in myxœdema or in animals deprived of the thyroid we see apathy, torpor, loss of memory, somnolence, etc. Moreover, the serum of animals the thyroid of which has been extirpated produces similar symptoms, and according to my experience this serum has distinctly hypnotic properties.

By giving thyroid extract we can remedy the above-mentioned mental defects.

Experimentally it has been proved by Walter Edmunds²⁹ that if the thyroid is taken away, symptoms of great disorder in the central nervous system may appear, of which I may mention congestion of the blood-vessels in the cortex, degeneration of the nerve-cells with destruction of their processes, chromotolysis, and disappearance of the Nissl bodies, etc.

Clinically it is a well-known fact that alterations of the thyroid are invariably followed by nervous disorders, as in Graves's disease and myxœdema. The frequency of nervous disorders in diabetes is also connected with this fact, as will appear later on. As the characters of the thyroid may be inherited, it is also clear why the children of such persons should show a predisposition to nervous diseases. If diabetes is a disease which in the majority of cases is developed on an inherited basis, and if children of diabetic persons are often of nervous disposition, these facts are dependent upon the important part taken by the thyroid (hyperactivity) in diabetes. These children are of quite a different constitution to those above mentioned which inherit thyroid deficiency. This appears in the bright intelligence, as a rule, of the children of diabetics in comparison with those of syphilitic or tuberculous parents, and in other details—*e. g.* the teeth of children of the latter are often irregular, and readily become carious.

If nervous diseases are not infrequently inherited, it may be explained by their arising on the basis of a thyroid which is the seat of inherited change. Besides the thyroid, the hypophysis (as seen in acromegaly) and the sexual glands exercise an influence on the nervous system. Any changes in the sexual glands may be followed by nervous symptoms, as appears from the psychical troubles which not seldom accompany gonorrhœa, prostatitis, and varicocele. Castration of the adult male may be followed by melancholia.

Similar facts are forthcoming in the case of the ovaries; and it is well recognized that puberty, menstruation, pregnancy, lactation, and the climacteric are prone to be followed by nervous diseases which may assume the character of mental disorders. As is well known, the sexual glands stand in close relationship with the other blood-glands, especially with the thyroid, which, as a rule, is also involved in the conditions above mentioned, and shows enlargement resulting from over-function, which might be followed by its exhaustion, as occurs after repeated pregnancy, prolonged lactation, etc. According to Ord,⁸⁰ Morvan,⁸¹ Combe,⁸² myxœdema often thus results. The greater frequency of Graves's disease and myxœdema in women is thus, possibly, to be accounted for. Besides the sexual glands and thyroid, other blood-glands may be altered during pregnancy—*e.g.*, the hypophysis (Launois) and adrenals (Guieysse⁸³ and Minervini). Such facts may also explain why the marks of senility often appear earlier in women than in men, whose sexual glands, thyroid and other blood-glands are not subjected to such a strain. Nervous disorders, again, like neurasthenia and hysteria, are, for a like reason, more common in women. In the case of criminal actions in women it should be ascertained whether these physiological conditions have any relationship with them.

Not only is the nervous system but the processes of oxidation are powerfully influenced by the blood-glands. After thyroidectomy, or in myxœdema, oxidation is diminished (Magnus-Levy).⁸⁵ In Graves's disease, on the contrary, and after thyroid medication, as found by the same author and by Mattes, and previously by Vermehren, oxidation is increased. Oxidation is likewise diminished after castration (Loewy and Richter);⁸⁶ the administration of testicular extract to the castrated dog, however, increases oxidation, and still more does ovarian extract in the castrated male dog, whilst ovarian extract of course effects an increase of oxidation in the spayed bitch.

According to Poehl,⁸⁷ Prince Tarchanoff, and others, spermin also increases oxidation. Narbuth⁸⁸ states that the same holds true in regard to the hypophysis.

The pancreas exercises a powerful influence upon the metabolism of carbohydrates.

Its total extirpation, as demonstrated by Minkowski and Mering,⁸⁹ is followed by severe diabetes; and its partial extirpation or degeneration by light diabetes or

alimentary glycosuria. The pancreatic origin of diabetes has been disputed, because in some cases no macroscopic changes appear in the pancreas. It has been shown, however, by Schäffer, Laguesse, Opie,⁴⁰ Weichselbaum,⁴¹ and others, including myself, that in most of such cases there are microscopic changes in the islands of Langerhans which, like the parathyroid, adrenals, or interstitial cells of the testicle, represent blood-glands. The ordinary secreting tissue of the pancreas may be destroyed in cirrhosis without involvement of the islands, as in an example in the Vienna Pathological Institute. In this case no diabetes was present; but in another from the wards of Professor Minkowski at the Augusta Hospital in Cologne, in which besides cirrhosis there was involvement of the islands, light diabetes was found.

When no change in the islands is discoverable, it may be that during life the gland was nevertheless not properly functioning. Every gland secretes under a nervous influence. As shown by Pawlow, there exists in the dog a psychic gastric and also a psychic pancreatic juice. Now, the pancreas is mainly controlled by the sympathetic (splanchnic), which is also the main nerve-supply of other blood-glands, and it may be difficult after death to discover whether any abnormal innervation has obtained during life and led to deficient secretion. Hence the contrary findings by Hansemann,⁴² Herscheimer,⁴³ Karakascheff,⁴⁵ and others do not invalidate the great importance attaching to the islands of Langerhans. According to Professor Ebner, of Vienna, these islands aid in the metabolism of carbohydrates, and Sobolew found that in animals the islands diminish in size after the administration of rich carbohydrate food. We may thus explain, as I have insisted elsewhere,⁴⁶ why diabetes will develop more readily in those who have been living a long time on much carbohydrate food.

Diamare and Kuliabko⁴⁷ have found by experiments at the zoological station in Naples that extracts of the Langerhans islets in certain fishes aid in the inversion of grape-sugar. Hence we must conclude that the Langerhans islets probably provide the internal secretion of the pancreas, which is indispensable for the metabolism of carbohydrate food.

ARNOLD LORAND.

Carlsbad.

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CLINICAL REMARKS ON THE PATHOGENESIS OF ACUTE PURULENT OTITIS MEDIA IN CHILDREN.

THE sudden, tumultuous, rise of acute idiopathic purulent otitis media in children of previous good health has led me to seek for a possible pathogenic basis that would explain the true mechanism of the formation of the tympanic lesions. Acute idiopathic otitis ought certainly to exhibit a special pathogenesis that perhaps would be, in its mechanism, equal to that of the secondary purulent otitis media. This lesion could be explained by the connection existing with the primary one; hence we can see how diphtheria, morbilli, scarlatina, typhus, broncho-pneumonia, etc., can represent such etiologic factors and permit us to neglect all other pathogenic details. The etiology is intimately connected with the pathogenesis. I shall report, on the contrary, by reason of the varying types of the middle ear in children as well as in adults, some experimental researches I have made which may be of value in clearing up this intricate problem.

I hope to show, for instance, that in rabbits (*Gazetta Internazionale di Medicina*, Anno VIII 1905; ed Anno IX Febbraio, 1906) I succeeded in closing the pharyngeal aperture of the Eustachian tube, and I have noted the constant formation of an abscess of the middle ear; that is to say, that by transforming an open cavity (like that of the middle ear) into a closed one, it augments the virulence of the microorganisms which must exist or can later reach there.

This new anatomical condition of the Eustachian tube suffices by itself to produce the purulent lesion, being impossible to admit that the middle ear from the tubopharyngeal orifice to the end of the last mastoid cell could represent a sterile branch of the rhino-pharynx when one reflects that it gets vitality from the rhino-pharyngeal ear, which is always, and notably, a refuge of every kind of germ.

The analogous demonstration has already classically been attributed to the pathogenesis of appendicitis (Dieulafoy, Klado, Kleki, Rogiers) and it is from this demonstration that it appears to be worthy of special mention in its application to derangements of the middle ear. Both experimentally and histologically, my idea has been proved it is possible to maintain, as I have tried to demonstrate in other works of mine, that the simple occlusion of the pharyngeal opening of the Eustachian tube produces acute purulent otitis of the middle ear.

But I believe myself now authorized to make some clinical deductions from the results of my experiments. With the theory of the closed cavity provoking the acute purulent otitis media held in mind, the clinical result is this: a gathering of pus in the tympanic cavity and annexes in animals experimented upon, the quantity of pus varying according to the time passed from the beginning to the closing of the tube. This question of time marks further a very important clinical considera-

tion, namely, the spontaneous perforation of the tympanic membrane, with the consequent flow of pus in the external auditory duct—a true picture of what happens in children and adults.

But examining the tympanic tissues of animals in which I had experimented; the larger lesions I have found in those in which the tympanic perforation had not occurred, notwithstanding the existence of the first cause, namely, the tubal obstruction; that is to say, that the minor lesions I have found when the middle ear, with its open cavity reduced to a closed one, had spontaneously returned by way of the laceration of the tympanic membrane to an open cavity.

Some experimental studies still pending may show me the degree of virulence of various germs before, during, and after, the tubal occlusion; but now it is indispensable to recognize that the frequency of acute purulent otitis media in children is principally connected with the conditions of perforation of the Eustachian tube.

There are individuals who enjoy perfect health, who do not expose themselves to any pathologic periods worthy of note, and yet who suddenly develop all the symptoms of acute purulent otitis media. The anamnesis is almost always mute: there are no general and near lesions, no external otitis, nothing!

The child has a moderate hypertrophy of the tonsils, or a development more or less marked of the citogenous tissue of the rhino-pharynx. What, then, is the relationship between the glandular state and the acute purulent otitis media?

It is always possible to admit a propagation of inflammation from the rhino-pharynx towards the middle ear, in connection also with the admitted condition of latent microbism of the adenoid growths recognized by Gürck.

In children the adenoid tissue really belonging to the tubes connected with the tonsils is undeveloped, and has not yet, as almost always in adults, yielded to the process of involution. In them the naso-pharyngeal cavity is narrow and is easily subjected to the inflammation clinically concealed in it, to which this tissue is very sensitive.

If the tissues belonging to the Eustachian tube, beginning with the adenoid, yield to the hyperplastic phase, the opening of the tube, already narrow in children, will from the beginning be closed, and the natural consequence is that acute purulent otitis media will occur.

But, from this time, what should be the conduct of the aurist before such an eventuality? Every one of us who looks at the anatomical conditions of the pharyngeal nasal cavity in children affected by adenoid growths, will endeavor to ameliorate the purulent stage of otitis; secondly, he will mitigate the state of inflammation by enlarging the cavity of the middle ear.

Who of us can deny, therefore, the enormous advantage of relieving the hyperplastic adenoid tissue of the rhino-pharynx, be it in regard to disturbed acoustic

properties of the ear, or of purulent conditions? Indeed, I believe that the real connection between cause and effect can only be found in the pathogenic entity the tubal canal has from the genesis of acute purulent otitis media and from the moment that, experimentally or histologically, the lesions are more marked. But, where the perforation of the tympanic membrane has not yet taken place and does not take place, as I can prove by demonstration, when the obstruction of the pharyngeal nasal cavity blocks the track where the Eustachian tube should empty (the track that the emissions of the Eustachian tube should follow) conditions which correspond to the true concept of the closed cavity in the beginning of acute purulent otitis media; so, there obtrudes the necessity for the clinician to open as soon as possible the tympanic tubal cavity in order to lessen the time that the tube is closed and isolated from the rest of the rhino-pharynx. The surgical action on the adenoid tissue of the rhino-pharynx might not act rapidly enough to impede the complete evolution of acute purulent otitis media, but the clinician, after having assured himself of the conditions of the middle ear in which the idiopathic form of otitic abscess occurs, should be sure of two principal facts:—

I. If the perforation of the tympanic membrane has already happened spontaneously, and yet the obstruction of the tube still persists, he will endeavor to facilitate the draining of the pus, in the first place, by keeping the opening constantly clear, and, in the second, by intervening or treating the adenoid tissue for whatever condition he may discover (cicatrices [prolissievaculi], hypertrophy of the tonsils, etc.), in case of the eventual closing of the Eustachian tube.

II. On the other hand, where the tympanic membrane should resist the “endo-tympanica” of the pus, or if the formation of pus should not be so rapid as to be in such quantity that the cavity of the tympanum cannot contain it, the attention of the clinician should be given more fully (besides the elimination of the pus) to fighting the persistence of the closed tubo-tympanic cavity, be its method a “mirin-gotomia” in time, or a careful (delicate) catheterization of the tube, or the use of the “Anti-flogistici” (as Maffé advises in “Simosite acuta” in children). (See Arch; di Laring; Anno XXIV, fasc. 4, Ottobre, 1904).

With these aids, before inexorably condemning a child to becoming an otorrhœic, adding to the number of chronic otitis, I believe it to be a duty to act, even if the attempt be abortive, more especially in respect to the pathogenesis of acute purulent otitis media, and the experimental results.

PROF. DOMENICO TANTURRI,

Naples, Italy.

HOUSE-TO-HOUSE OPERATING.

EVERY step in progress is not an evolution, and what often appears to be an advance movement in the social complex is but a change of environment, the result of fad or fashion. When surgery reached its great exploitation of the last twenty years it required larger opportunities and conveniences. Consequently, the old house-to-house surroundings, which had prevailed for centuries among the well-to-do, were changed, and there resulted a great increase in the number of hospitals and attendants. This had the appearance of being a material advance. More rigid anti-sepsis, greater care of the individual were among the inducements thrown out to the public. Luxurious surroundings were furnished as an additional temptation to all who could pay for them.

If all of these were true, hospital operations and methods would have been placed upon a foundation beyond the danger of reaction. Unfortunately, if not true, some of them were grossly exaggerated. Take the matter of cleanliness, for example. It has never yet been demonstrated that any hospital room or ward is as clean as a well-ordered room in a clean household. There are many hospitals of comparatively recent construction, the walls of which reek with infection. I do not hesitate to say, and many clinicians, if they had the courage warranted by their experience, would agree with me, that every hospital that had its rooms and wards constantly occupied ought to have its interior finish of plaster and woodwork removed and replaced every few years.

One of the most evident inconsistencies is the trained nurse. The trained nurse idea is an imposition on the public. No hospital is served by trained nurses. They are simply young women in training to become nurses. Many of these are worthy young women, who are earnestly and seriously at work. A large number have taken up the training of a nurse because it is fashionable; another large contingent are without any preparatory education and are of the social grade of the domestics, and ought not to be placed at the bedside. It is a heterogeneous mass of untrained young women that the hospital places at the bedside of the sick, or to care for those in jeopardy from serious operations. Complaints of want of care, or inattention, even brutal indifference, are constantly coming under the notice of the physicians and surgeons. Complaints are ignored and investigations are smothered in the interest of business. I speak from ample personal knowledge of the truth of what I am writing about. All of this is impossible in the well-ordered home. There may be other reasons personal to the surgeons that it is not necessary to say anything about. Many persons, usually women and children, have to be almost forced into the hospital, where their dread and fright seriously impair their chances of recovery.

There is reason to believe that there is a growing tendency to return to the old plan. Many articles have already appeared in American journals strongly favoring it. The recoil to old environments is not confined to this country. As recently as December 5, 1905, Landenburger, in the "Munchener Medizinische Wochenschrift," reports the result of eighty-eight major operations performed in the houses of patients, often belonging to the poorest class. "Most of these were laparotomies, and all of the others were joint-operations, including suture of the patella, which requires a high degree of aseptic technic. Seven deaths were recorded, one of acute pancreatitis, several due to general peritonitis and one resulting from collapse twelve hours after the extirpation" of a large carcinomatous goiter. The abstract concludes that the author advocates the performance of such operations outside of hospitals, on the ground that the results justify the proceeding practically, while theoretically the same degree of asepsis is obtainable, and it is even more probable that there are fewer dangerous germs to be found about the average dwelling than are present in a busy hospital. Another advantage lies in the greater education of the general practitioner, who, by his participation in such operations, gains a better insight into the pathology and necessity for prompt action in abdominal conditions than is possible in any other way. The author sterilizes all of his own sutures and dressing-materials himself at home; the instruments and the rubber gloves are boiled at the patient's house. He uses as operating table any substitute that may be found on the premises; the anæsthesia is carried out according to Witzel's drop method, and in this form may be safely entrusted, if necessary, to an unskilled assistant. The author is his own instrument-passer and works with only one trained assistant. Although the preparation of the sterile goods entails more work for the operator, he secures the certainty of their proper sterilization, and is not obliged to depend on the conscientiousness of nurses or attendants.

This is reducing surgery to its simplest proportions. What Landenburger says about house-operating as affording a good school for the young surgeon is certainly to the point. In a city, the size of Syracuse, among two hundred or more physicians, not more than twelve or fifteen young men, by the selection of the hospitals, are given opportunities to obtain the practice and assurance that make for skill in surgery. The others, but not all the others, are given an occasional opportunity to look on. In the house-operating plan any young man with surgical proclivities can make his own opportunities. There is nothing new about the idea, and it is being practiced every day by the most exclusive hospital surgeons. No surgeon hesitates to operate in sudden emergencies in the farm-houses and at homes in villages, and I believe that none of them can say that the results are not as favorable as work done in a hospital. For thirty years I have operated in major and minor work in farm-houses throughout the great Central New York, and my results were as good as those done in the hospital with which I was connected for many years.

To the old hospital surgeon there are annoyances and inconveniences to put up with, which do not disturb one trained to the surroundings. Not least among the things to be said in favor of house-operating is the satisfaction and contentment of the family and friends of the patient. I have never ceased to dread the sending of the fatal telegram announcing the death of a patient in a hospital, away from family and friends, a week or more after an operation, whom all believed to be doing well.

There is the bread-winning side to the question. The young surgeon, instead of receiving a perfunctory letter of thanks from a hospital surgeon, can collect his own fee, which, if small, never comes amiss; while he can rest under the consoling assurance that it will grow larger in proportion to greater opportunities. When he is allowed to perform the operation for himself in a hospital, charges for rooms generally demand all the money the patient can spare, while the ward patients are reserved for the staff. House-operating would very nearly settle the disreputable problem of the split fee. I believe that this practice is the product of the hospitals. Men send their cases to the hospital for operation, and lose their fees and oftentimes their patients. It appears a hardship, especially when the man feels competent to do the work himself. Had he not been possessed with the hospital idea, he would have made the operation at the patient's house and possibly have saved his professional virtue. In country work the family physician can have nothing to complain of, even if he sends to the city for a surgeon, because he can care for his case and honestly earn his fee. Dr. Robert Abbe, in a closely related subject ("The Trained Nurse and Surgery," *New York Medical Journal*, August 28, 1906), says, in relation of the preparation of an operating outfit in private homes, one sees a beautiful display of technical work which always commands admiration.

"It is varied by the taste of the nurse and the demands of the operation, but I am glad of this opportunity to say that a very long schooling has brought conviction that elaborate changes in converting a living room into a competent operating room are not only an error, but, in making a false show, may give a misleading sense of security and mask defects in the immediate essentials of cleanliness for perfect work. The custom of twenty years ago, to clean everything out of the room, remove every picture, hanging, curtain, shade, and carpet, strip it of all furniture, and subject it to a day or two of house-cleaning before even an appendicitis operation, is a thing of the past. The finest operators to-day are aware that in emergency any room can be prepared in an hour for perfect technical work.

"One only has to recognize that the essentials of clean work consist in making pure everything that goes into the wound, and these are five: (1) the operator's and assistant's hands, which are usually gloved or sterilized; (2) the catgut, with the preparation of which the nurse has nothing to do; (3) the sponges (gauze), always sterilized on the spot with instruments; (4) the basins, dishes, and solutions of

boiled water, normal saline solution; and (5) a proper complement of sterile towels and laundered sheets, with sheets to pin on the floor and about nearby curtains. Given this equipment, and any surgeon of experience will go into a room in which the patient is lying and guarantee an aseptic laparotomy. I emphasize this to impress the fact that the essentials of surgery to-day are reduced to an understanding of cleanliness.

"The elaborate list of things to be done, and to be brought from the chemist's and housefurnishing store, ought to be a thing of the past. The nurse's work is simplified. The surgeon's, meanwhile, is more complicated technically, and when his work is well done and a dressing applied, there is usually one change of dressing afterward, and not much for the nurse to do with the wound. In private work I find there is little that distinguishes a well-trained nurse in medical or surgical service."

The reader must not conclude that I am an enemy of our great hospital system, that reflects so much honor on the communities and individuals who have built and endowed them; but there are other interests to serve in the practice of surgery than that of the hospitals. In sending there all the patients that require operations, under the mistaken idea that they can be cared for in no other way with equal safety, is not serving the best interests of a hospital. The purpose of this editorial is to show that they can be cared for just as successfully in other surroundings.

The hospital ought to go back to its original purpose, the care of the homeless and sick poor, and not invade the home with the arrogant assurance that only within their walls can the surgical case be cared for. Palatial hospitals with princely rooms, costing from fifty to one hundred dollars a week, are out of place and are another form of hospital abuse.

ELY VAN DE WARKER.

VACCINATION AND ANTIVACCINATION.

The aims and determinations of medical science are uniformly to prevent disease, to conserve and perfect the autoprotective forces. It is by no means possible to achieve the ultimata, only by so much as is within human capacities and current knowledge. Achievements are limited by various restrictions, not only by imperfections in capacity, by failure to grasp fundamental principles, but particularly by defects in individual consistency, zeal, and purpose.

Among the larger perils to human structures and life stands variola, small-pox. At one time this infection wrought havoc in all lands. A simple procedure, employed among dairy-folk, became known to Jenner, who collated, experimented, and presented the facts to the profession.

From crude inoculations there evolved scientific vaccination. This has been developed to a moderate degree of perfection.

Through this agency the structural and organic integrity, even the lives, of vast numbers of persons have been saved. It is true that, by reason of insufficient thoroughness in the elucidation of principles, in biologic details, or through culpability in application, a certain number of instances of damagement has ensued. Weighed in the balance, however, with the good effected, estimated in the light of what would otherwise have transpired, there are relatively rare accidents. Even the preventable happenings are as nothing compared with those in other lines.

There has arisen a rather momentous opposition to vaccination, organized and insistent, numbering among themselves some highly intelligent folk. This will, however, prove ultimately, as does all skepticism, of benefit in demanding fuller investigation, greater exactitude in measures, especially making necessary the same care in application as in all surgical procedures.

Scientific physicians, research scholars, "like other human beings are prone to attribute unexplained phenomena to factors that have been proved to be active in the production of analogous phenomena."

We do well to welcome intelligent attacks on any accepted conclusions, however impregnable they seem. Debating with reasonable cavillers stimulates not only investigation, but evolves new lines of thought.

The past century has seen a notable diminution in the prevalence of all transmissible diseases. They are said to be one-half less in cities.

The task began with small-pox, which now prevails in almost no civilized countries, and then rarely, and only when brought in from without. The general consensus in belief is to the effect that this is due to vaccination. If not due to vaccination, what has effected this indubitable result? There is such a thing as "immunity by exposure" (see article by E. W. Watson, *Monthly Cyclopædia*, March, 1906).

The antivaccinationists, in the extremity of their zeal, and no doubt in full sincerity, assert that the medical profession clings blindly and tenaciously to such measures as they have once adopted. This is by no means true. We say, "Away with the shreds of all outworn beliefs, false doctrines, heresies, untenable conclusions." It is the hall-mark of science, the spirit of true knowledge, to revise, eliminate, cast off the dominance of any or all error. The whole history of regular medicine presents a series of such rejections, revisions, rejuvenations. What we want are the facts; the truth we must attain. We can afford to wait for explanations till adequate data are forthcoming. The fact is demonstrated beyond cavil that to-day small-pox is relatively a rare disease; that it prevails only when the means of controlling it are exercised feebly or not at all. The truth seems to be that the one agency which accomplished almost all of this is vaccination. Nevertheless, there are

those who stoutly deny this truth; they call in question the fact. There remains the incontrovertible fact that general vaccination has been followed by the local disappearance of the disease.

If the measure be not yet perfect, let us make it so. It is a matter of common knowledge that the most hurtful conditions menacing humanity seldom secure the degree of attention which the quality of the peril strictly warrants. Why this is so it is needless to discuss, but conservators of health usually reflect in some way the popular view. Hence it is that certain of the transmissible diseases on their approach create widespread terror; others can scarcely secure enough of attention to induce popular coöperation. By the same token precautions deemed essential by municipal officers are not seldom resented, sometimes violently opposed, according to the prevailing point of view. The public, especially in America, acquires too often only partial, one-sided conceptions of suitable precautions. Knowledge which shall be effective in precautionary measures can only be the product of growth, development; can only become exact if the essential facts are presented accurately, briefly, consistently, acceptably, and perpetually.

Vaccination has, unfortunately, not yet secured the degree of scientific attention needful to a full understanding of the principles of its action, the extent and limits of its efficacy, the certitude in the means of eliminating accidental extra infections, or, indeed, knowledge of precisely what are the best methods which shall be employed. There is by no means that unanimity of view on these points which should prevail among practitioners the world over.

It would seem to the writer that we need here international, or, at least, federal regulations. There is a deplorable lack of exactitude in knowledge of vaccination among physicians which the opponents justly point out and condemn.

The people observe this disharmony, and they too often interpret it to indicate doubts as to the value of a measure than which no one is of more fundamental importance. They cannot be expected to accept unquestioningly an unwelcome precautionary operation, accompanied by some dangers, direct and remote, for which they do not see immediate or precise needs.

Dissatisfaction is thus readily aroused and not easily allayed, because the arbiters of hygienic beliefs, the family practitioners, often vacillate notably. This vacillation seldom goes so far as to call in question the fundamental efficacy of vaccination, which is incontrovertible.

It is true there have arisen a few deplorable instances of damage and death from the results of carelessness in not only the preparation of the virus, its preservation, the omission of surgical precautions, accidental indirect inoculations, and accidental infections.

Add to this a considerable group of purely accidental mishaps, nonpreventable, or inevitable risks which must be run, also some exasperating coincidences in no way

due to culpability, *e. g.*, vaccinia induced in a person of unstable nerve-forces, degenerated blood or tissues, grave metabolic faults, concealed organic damages, especial susceptibility, etc. Such risks must be always run, the lesser peril being as nothing compared to the greater from specific infection which would work greater havoc.

A mild febrile process, vaccinia, may, and sometimes does, do some mischief, but so little as to be a negligible quantity, provided reasonable care be observed before and after.

A most important lesson has been taught the profession by the sad misfortune to the child of Professor F. Blochman (quoted by Professor George Dock, of Ann Arbor, Mich.; New York and Philadelphia Medical Journal, January 6, 1906).

Dr. Dock reviews the observations and conclusions of F. Blochman, professor of zoölogy at Tübingen, which consists of a monograph of ninety pages. There is given a thorough, impartial summary of the recorded data and his personal findings on the subject of the dangers of vaccination, full of wise philosophic, scientific observations, and of pathos, too, his only son having lost the sight of one eye by accidental vaccination.

It was some part of the plan of the present brief communication to review the literature of those opposed to vaccination, but this is too large an order at this time.

In the subsequent issues we are promised papers from those who have given the subject careful and thorough attention. In these will be a review of the biology of vaccination, the complications and injuries resulting, and full directions as to methods which should be employed to secure sound virus, and to inoculate and care for the lesions and the general condition.¹

J. MADISON TAYLOR.*

Cyclopædia of Current literature.

ALBUMIN IN THE URINE.

From any point of view the term "physiological albuminuria" is almost universally regarded as misleading, unsatisfactory, and inadequate. As long as albumin is a constituent of the urine, the individual voiding it cannot be regarded as normal. The mortality

among such persons must necessarily be higher than among an equal number of individuals who do not show this phenomenon. The actual mortality rate among this class can best be approximated by a comparison of the records of half a dozen of the largest life insurance companies (dealing with hun-

¹ Full information exists on vaccination along with small-pox, etc., in the excellent book, "Acute Contagious Diseases," Welch and Schamberg, Lea Bros., 1905.

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dreds of thousands of cases), over a period of twenty years at the least.

The promptness of discriminating between the transient forms of albuminuria and those of real clinical significance may be found in some such therapeutic test as that of calcium lactate rather than by any further developments in the chemistry of the urine. Experience proves that a "faint trace of albumin" in the urine of an individual past middle life is often of greater significance than a "decided trace," by unexpectedly directing attention to the finding of casts of pathological importance, which might otherwise have been easily overlooked.

For practical purposes the heat and nitric-acid test for albumin is the best one, and the careful use of Roberts's solution is the most satisfactory control test in doubtful cases. For the proper diagnosis and prognosis, too much stress cannot be laid on a thorough consideration of the clinical conditions as a whole. J. P. Tunis (*American Journal Medical Sciences*, July, 1906).

ALBUMINURIA AND MENSTRUATION.

It not infrequently happens that albumin is found in urine voided during menstruation. This albuminuria is, however, transitory and disappears after the catamenial period ceases. This fact is certainly important from the clinical standpoint, because the urine of a woman taken during menstruation, with all due precautions in order to avoid any possible cause of error, will frequently be found to contain a little albumin; but it should be pointed out that there are two categories of cases. In the first are included those instances in which the albuminuria arises in normal kidneys, while in the second the cases represent an albuminuria occur-

ring in subjects whose renal structures have undergone pathological changes.

Now, facts seem to show that in a young and healthy woman, whose kidneys appear normal, whose ovarian function is quite up to the physiological standard, a transitory albuminuria may exist, due to a simple increase in some constant element of the urine. This albuminuria is merely physiological in character, and probably never becomes pathological.

In the second category of cases, where a renal lesion has existed for some time, renal congestion, produced by the catamenial molimen, momentarily increases retention in the glandular filter, and causes the lesions of sclerosis to progress rapidly. Should the case be one of latent nephritis, to a certain extent compensated, chronic menstrual congestion of the genital system requires increased functional activity of the diseased gland, and thus may interfere with proper therapeutic measures. Generally, however, one is dealing with chronic interstitial or parenchymatous nephritis undergoing evolution, and then at the menstrual period an acute attack becomes established, with an increase of all the symptoms. The hyperæmia accelerates the development of the renal lesions, and transforms the chronic incomplete renal retention into an acute renal retention.

To sum up, it may be said that, besides certain albuminurias which can very properly be termed physiological and offer no indications for treatment, there are two other varieties which may be termed catamenial, namely: albuminuria occurring in women with irregular menstruation, which in all probability is due to the action of the toxins elaborated by an abnormal ovary; and, secondly, the albuminuria aris-

ing in women with regular menstrual functions, but who have an involutive renal affection, no matter how slight it may be. The pathogenesis of albuminuria in these cases lies in a renal reflex congestion of ovarian origin, arising in an already pathologically changed organ.

The diagnosis of the two varieties of albuminuria is important, for the reason that the prognosis is quite different from that of the so-called physiological albuminuria. In both toxic and congestive albuminuria the final outcome may be chronic interstitial nephritis. Consequently the prognostic significance of these chronic albuminuric outbursts is serious, while in subjects with healthy kidneys the menstrual influence has been considered as of no immediate importance; but it is, nevertheless, sufficiently serious for the practitioner to apply judicious treatment in order to attenuate, or cause to disappear, the disorders that it produces or accentuates. Editorial (New York Medical Journal, July 7, 1906).

APPENDICITIS, EARLY DIAGNOSIS OF SEVERE.

In every case of appendicitis, differentiation should be made between simple appendicitis and destructive appendicitis. The most positive manifestation of destructive appendicitis is painful abdominal rigidity. This demands immediate operation. When this sign is completely absent and no other manifestations are present which awaken anxiety, it may be assumed that simple appendicitis is present. A pulse-rate increased to 100 or above is a sure indication of destructive appendicitis, demanding operation. A low pulse-rate, however, does not necessarily indicate a mild form of disease. Repeated attacks

of vomiting and severe pain, which persists in spite of the use of the ice-bag, indicates a severe form of appendicitis. Temperature is of no material importance in determining the severity of the attack. The increased frequency of respiration and the presence of costal breathing are always unfavorable symptoms. The presence of one positively unfavorable manifestation is to be considered of more importance than is the occurrence of several favorable ones. A diagnosis of destructive appendicitis having been made, operation should be performed within two hours. Krecke (Münchener medizinische Wochenschrift, Nu. 15, 1906; New York State Journal of Medicine, July, 1906).

ARTERIOSCLEROSIS IN SURGERY.

The writer's experience with chloroform anæsthesia in cases of pronounced arteriosclerosis has been very favorable. A history of attacks of angina pectoris did not add to the gravity of the general anæsthesia. Apoplectic symptoms have been observed in arteriosclerotic subjects under the influence of chloroform, but they are extremely rare, and he ascribes them more to the excitement than to the arteriosclerosis. Even patients with myocarditic changes in the myocardium tolerate the chloroform well, provided the heart-affection is well compensated, the kidneys still acting well, and that there is no bronchitis or emphysema. The combination of arteriosclerosis with emphysema and bronchitis renders the prognosis much graver. Chloroform has been recommended as a remedy for angina pectoris, and many persons in the eighties, operated on now and then for incarcerated hernia or the like, bear the chloroform almost always well. On the other hand, arteriosclerosis in younger patients is liable to pro-

duce some very disastrous surprises. Examination of the heart and kidneys reveals nothing abnormal, but there is liable to be a serious collapse under the influence of the anæsthetic, and the rigid, tortuous course of the peripheral arteries is then noticed. The patients are usually revived in these cases, but instances have been encountered in which the patient succumbed to heart failure six or seven hours later.

The writer is of the impression that an arteriosclerotic individual bears better a deep than a superficial anæsthesia. The persisting reflexes may affect the heart injuriously. Such persons tolerate the anæsthesia better than the pain. Aseptic surgical incisions and amputations heal surprisingly well in the arteriosclerotics, but complications are almost inevitable in operations on the intestines, especially resections. Inflammatory processes in the intestines frequently entail congestion in the intestinal wall, with friability of the tissues, especially in younger subjects. Even in an "interval" appendicectomy the ligatures are liable to tear out. There is also a special tendency in the arteriosclerotic to after-hæmorrhages, especially in tissues after Schleich infiltration anæsthesia.

The author discusses aneurisms and diabetes in relation to arteriosclerosis, and reaffirms that arteriosclerosis is one of the most frequent causes of pancreatic affections. This is particularly true of apoplexy of the pancreas. Hæmorrhagic intestinal catarrh in elderly people is probably due to the altered condition of their blood-vessels. He adds, in conclusion, that there are a number of affections which masquerade as appendicitis, or gall-stone trouble, or acute or chronically intermittent stenosis of the intestines, which

in reality are only the consequences of sclerosis of the mesenteric vessels. E. Seigel (*Münchener medizinische Wochenschrift*, Bd. liii, Nu. 13; *Journal of the American Medical Association*, July 21, 1906).

BUTTERMILK AS A FOOD AND THERAPEUTIC MEASURE.

Buttermilk is considered by the author as a food for invalids and as a substitute for mother's milk. The latter phase of the subject is interesting. It is easily borne by infants, and is inexpensive, while it includes a great deal of the nourishing elements of mother's milk. Rickets have undoubtedly developed in children fed exclusively on buttermilk in infancy, but the forms thus far observed in such children have always been slight. The most valuable feature of buttermilk as an infant-food is the fact that the infants so fed are not prone to develop acute gastrointestinal disorders. V. N. Gerasimovitch (*Roussky Vrach*, May 20, 1906; *New York Medical Journal*, July 14, 1906).

CANCER, MECHANICAL IRRITATION AS A CAUSE OF.

After reviewing the literature on the etiology of cancer, the writer concludes that it is only in exceptional instances that a direct connection between the disease and mechanical irritation can be established. In these either embryonal tissue was present at the site of the lesion, or else the disease developed from cicatricial tissue. The writer attaches more importance to chemical irritation, but is uncertain whether this favors the proliferation of embryonic cells, according to Cohnheim's theory, or the growth of germs embedded in the normal tissue, as Ribbert holds. He rejects the parasitic theory, since all ex-

periments have failed to cause the development of cancer through acute or chronic traumatism. Goebel (*Volkman's Samml. klinische Vorträge*, Nu. 403; *American Journal of Medical Sciences*, July, 1906).

CANCER OF THE BREAST, EARLY RECOGNITION OF.

According to the writer, the three most important signs of breast-cancer in the early stages are: 1. The presence of a single tumor (if multiple the case is probably not cancer). 2. Retraction of the skin over the tumor. 3. Flattening of part or whole of the curve of the breast over the tumor. If these three symptoms are associated, the author believes the case should be regarded as cancer. Enlarged glands in the axilla are already evidences of an advanced case, but the author advises that in all cases both axillæ should be examined, and if the glands are enlarged on both sides, it would be a point against the diagnosis of cancer. Retraction of the nipple is also a late sign, except when the tumor lies just beneath; but hæmorrhage from the nipple on compression of the breast is highly suggestive of malignancy. In doubtful cases, a microscopic examination of an excised piece of the tumor should never be omitted. In order to prevent dissemination, the exploratory operation should be a wide one, and should include the skin immediately above the tumor and the fascia beneath. G. L. Cheatle (*British Medical Journal*, May 26, 1906; *American Journal of Surgery*, July, 1906).

CARBON DIOXIDE GAS RETENTION AS A FREQUENT FACTOR OF DISEASE.

According to the writer, many of the diseases with which mankind is afflicted

are primarily due to retention of some poison in the system, through failure of one or more of the excretory organs to perform their function of elimination. He asserts to have found this potent factor of disease to be carbonic acid, the only poisonous constituent of perspiration. The writer believes that carbonic acid toxæmia will yet be found to be the main factor in the production of cancer of the breast, stomach, and of the intestines, of bronchial asthma, of heart-failure in pneumonia, and of cellulitis and gangrene, etc. L. B. Couch (*Medical Record*, July 14, 1906).

CHLOROFORM AS AN ANTIDOTE FOR COCAINE.

The writer found that animals which had been poisoned by cocaine could be saved by means of inhalations of chloroform, but that they showed marked changes in their internal organs afterwards. The following pathological changes were found in the animals experimented upon: Disintegration and chromatolysis of the Nissl's bodies in the spinal cord; chromophilia of the cell-protoplasm, vacuolization, and a marked displacement of the nuclei toward the periphery; disintegration and destruction of the Nissl's bodies in the nerve-ganglia of the heart; marked displacement of the nuclei and nucleoli, and fragmentation of the latter; hæmorrhages of considerable size in the intermuscular tissue of the cardiac sæptum; fragmentation and chromatolysis of Nissl's bodies in the retina; hæmorrhage in the pericardial sac and under the endocardium; fatty degeneration of the liver; in the kidneys, changes in the shape and size of Altmann's bodies, as the result of cell degeneration; in the lungs, swelling and

desquamation of epithelia of the pulmonary alveoli and extensive hæmorrhages. After these animals had been revived with chloroform, they were ill for a week or two, and required great care to secure their permanent recovery. V. I. Parine (Roussky Vrach, May 27, 1906; New York Medical Journal, July 21, 1906).

CHOREA AND RHEUMATISM.

The writer states that a relationship between chorea and rheumatism has long been recognized. The effects of the toxicity of rheumatism are much more widely spread over the body than on articular or cardiac structures, and the throat and skin or the brain may equally be sites for the manifestation. The pathology of choreic endocarditis is identical with that of rheumatic endocarditis. Rheumatism has been clearly proved to be an infective malady, and the specific causative organism has probably been identified—the diplococcus of rheumatism of Poynton and Paine, the micrococcus of Walker, and the streptococcus of chorea of Wasserman, being all three identical. Although chorea is never caused by nervous shock or fright, yet a neurotic factor must be acknowledged in a true conception of its pathogeny. That the young and the female sex afford the greater number of examples of it is probably due to the fact that in these subjects the rheumatic toxine is apt to spread more widely and to act with greater intensity than in adults. The adolescent brain is also more unstable than the fully developed one. Chorea is distinctly more frequently met with in families prone to rheumatism; it may precede by months or years an attack of rheumatic fever, or may supervene during an attack. The disease occurs markedly among the

nervous or unstable members of a family. It is thus a true cerebral rheumatism. It is certain that there is something specific in the nature of the rheumatic toxin as introduced by the particular infecting microbe. It is probable that the toxin varies in the quality and degree of its virulence. Sir D. Duckworth (British Medical Journal, June 23, 1906).

CIRRHOSIS OF THE LIVER, CHANGES IN THE PANCREAS IN.

The pancreas has been studied by the writer in twenty-three cases of cirrhosis of the liver. In most instances the cirrhosis was of atrophic type, and in fifteen cases there was a history of alcoholism. Diabetes was present in three instances. The pancreas in all cases showed more or less overgrowth of connective tissue, which, in twelve cases, was about proportionate to the cirrhosis of the liver. The pancreatic cirrhosis was at times entirely intralobular and confined to the interacinar connective tissue; at other times the increase was principally in the interlobular connective tissue, though in this type there always existed some increase in the intralobular connective tissue too. The head and tail of the pancreas seemed to be affected first, and exhibited the most extensive changes. In a case of pigmentary cirrhosis of the liver there was also marked pigmentation of the pancreas. The islands of Langerhans presented usually some alterations, which, however, except in the cases of diabetes, were marked neither in degree nor extent, and consisted in slight thickening of the capsule or vessels and degenerative changes of the epithelium. In two of the cases of diabetes there was hyaline degeneration. Increase or thickening of the elastic tissue of the organ

was often noted. The weight of the pancreas varied from 32 to 150 grams. The form of the cirrhosis, whether atrophic or hypertrophic, made no difference in the microscopic picture of the changes in the pancreas.

The principal causes for the lesions in the pancreas are discussed. It is possible, first, that the changes in the pancreas may be the sequence of a chronic passive congestion following the cirrhosis of the liver; or, secondarily, the etiological factor in the production of the cirrhosis of the liver may also be the cause of the changes in the pancreas. In most of the cases the author adopts the latter view, regarding alcohol as the etiological factor. In a few instances he believes that the pancreatic lesion followed directly from the cirrhosis of the liver. Lando (*Zeitschrift für Heilkunde*, Bd. xxvii, s. 1, 1906; *American Journal Medical Sciences*, July, 1906).

DEGENERATION OF THE MYOCARDIUM IN HOT CLIMATES.

The writer calls attention to the degeneration of the myocardium in hot climates, and considers the condition as of great importance, for while the prognosis is, in case of prompt recognition and treatment, by no means bad, evidences of myocardial change are apt to be misinterpreted, and death not infrequently occurs after an apparently trivial illness. The disorder has no racial preference. Overindulgence in hard exercise is clearly causative. The middle-aged man who removes to the tropics and keeps up the athletic activities of his earlier years furnishes an especially fit subject. The patient has an indefinite malaise, but there is no faintness, dyspnoea, cough, or precordial oppression. Cardiac rhythm is unimpaired,

though the action is indicative of a flabby organ. Death may come in an anginoid seizure. It frequently occurs at night and after the administration of a hypnotic. Autopsy shows the heart somewhat enlarged, lax, and flaccid. Epicardial fat is markedly deficient. There is no endocarditis and no dilatation. Coronary arteries are dilated and soft. The myocardium is pale, soft, and friable. The intermuscular connective tissue is swollen and apparently increased in quantity, but round-celled infiltration and vascular congestion are absent. The tissue appears waterlogged, and in general it may be said that the condition is only a prominent feature of a general dyscrasia which affects all the tissues to a greater or less degree. The main principles of treatment are embraced in rest in bed, limited diet, general massage, avoidance of tobacco, and restriction of alcohol. Opium is the most valuable drug. Strychnine, digitalis, etc., are to be avoided. W. C. Brown (*British Medical Journal*, June 23, 1906).

DYSPEPSIA.

The writer considers that by far the greater part of the cases of dyspepsia which are not due to organic changes in the stomach are due to disturbances outside the stomach altogether—to blood states, circulatory disorders, intoxications, nervous diseases, etc.

With normal blood and nerves, the stomach should be as little disturbed as any other viscus. Wholesome food in its many varieties should not cause indigestion. Age and sex are important; in children and adolescents organic gastric disease is very rare in males, less rare in females. In young women stomach-disorders are frequent and organic disease (ulcer) is common. In

older women the frequency is about the same as in males. When a man in middle life, who has hitherto had a good appetite and a good digestion, begins to complain of persistent loss of appetite and a painful digestion, the probability is that, if the stomach is to blame, it is the seat of organic disease. Chronic vomiting, if due to stomach-disorder, almost always means mechanical disease.

Gastric disorder causing a marked loss of flesh is almost always organic. Anæmia and cachexia have the same significance. Gastric disorders markedly benefited by rest in bed and restricted diet are probably of an organic nature. Many cases of gastric ulcer in women have no physical signs except tenderness on pressure. A. G. Barrs (*Lancet*, June 9, 1906).

EMBOLISM, POSTOPERATIVE.

The author has found that this condition affects the pulmonary artery and its branches in the majority of cases. Normal blood does not coagulate in normal vessels, and an embolus presupposes a thrombus from which it is detached. For the formation of a thrombus there must be fibrinogen and calcium salts, which are normal to the blood, and a nucleoproteid, which is never normal blood, being formed by the degeneration of blood-plates and leucocytes. Anæmia, chlorosis, sepsis, excess of calcium salts, slowing of the blood-currents, traumatism, inflammation of the walls of the vessels, pressure, and many other conditions may predispose to the formation of thrombi conditions which call for operative measures and frequently involve one or another of the foregoing causes. Thus, fibroid tumors, which are most frequently followed by thrombosis and embolism after their removal, may be said to predispose to such complications, ow-

ing to their frequent coincidence with excess of calcium salts in the blood, degeneration of the heart-muscles, consequent imperfect contractions and residual blood, with retardation of the blood-flow and predisposition to heart-clot. The latter condition has often been observed in the right side of the heart, and is followed by fatal embolus in the lung.

Signs of impending thrombosis are weakness and rise in the pulse and temperature. Precautionary measures for the prevention of abnormal coagulability of the blood consist in the use of abundance of alcohol and citric acid, the withholding of milk, the avoidance of hæmorrhage at the operation, so far as possible, also the avoidance of motion and excitement after the operation. When pulmonary embolism occurs, oxygen should be freely administered. E. Boise (*American Gynæcological Society; New York Medical Journal*, July 14, 1906.)

EXOPHTHALMIC GOITER, ANTITHYREOIDIN IN.

In all of the authors' cases blood-pressure study proved the disease to be one in which, despite the small and thready pulse, the sphygmomanometer showed high pressure. With an improvement in the tone and character of the pulse under treatment, the measure of the blood-pressure showed no appreciable reduction. They are positive that antithyreoidin is a remedy which can be used for the relief of the annoying and alarming symptoms of exophthalmic goiter in typical and atypical cases. The greatest improvement is found in the relief of the tachycardia, precordial distress, and tremor. This improvement is hastened by rest in bed and close attention to diet. Rest in bed and

diet alone, without the administration of antithyreoidin, will not lead to the same degree of cardiac comfort. Improvement of one or more of the symptoms of the disease is likely to follow within from three to seven days after beginning the use of the remedy. If there is no improvement of symptoms after from three to four weeks of administration, the chances are against ultimate benefit from the prolonged use of the serum. In serious cases it will be necessary to continue the treatment during many months. In all cases, after the disappearance of the subjective symptoms it will be wise to administer antithyreoidin during periods varying from four to eight weeks, at intervals of two or three months. Cases without marked goiter, with slight exophthalmos, tremor, and the Graeffe symptom, have yielded most readily to the antithyreoidin treatment. The enlarged thyroid has become perceptibly smaller, but has not returned to the normal size. Exophthalmos continues to be the most rebellious symptom, never yielding entirely to antithyreoidin treatment. Nervous symptoms usually yield as the heart becomes slower. The many fears which take possession of these patients are also relieved at the same time. The majority of their patients increased in weight. Patients who have been taking antithyreoidin during a long period feel, when the serum is discontinued, as if they had been robbed of a food to which they are entitled, and return to its use with confidence and pleasure. In no case have the authors had occasion to regret the trial of antithyreoidin. It has always proved itself harmless. It may be given during pregnancy without fear of injuring the mother or fœtus. Hypertrophied and dilated hearts offer no counter-indica-

tion to its administration. H. L. Elsner and J. R. Wiseman (New York State Journal of Medicine, June, 1906).

GASTRIC ULCER, TREATMENT OF.

The writer states that acute ulcers should be treated medically, surgery having only to do with the complications, such as perforation, hæmorrhage, and obstruction. Chronic ulcers should be considered medically as long as the patient maintains good nutrition and is not rendered more or less unfitted for life's work by reason of pain and digestive disturbances. Chronic ulcer becomes surgical when repeated medical "cures" have demonstrated the futility of further continuance of such treatment; especially if there are mechanical conditions present, such as obstruction, stagnation or retention of food, adhesions, etc. The liability of ulcer degenerating into cancer, taken alone, would not justify operation, but must be taken into consideration in summing up the indication for interference. W. J. Mayo (Mobile Medical and Surgical Journal, June, 1906).

HÆMOPHILIA, JOINT-MANIFESTATIONS IN.

The possibility of hæmophilia should be kept in mind in doubtful joint-affections, and a thorough study of the cases will then lead to a correct diagnosis. In the first stage aspiration of some of the fluid may be necessary, and the procedure is harmless, if done with a very small needle and with all proper precautions. The principal conditions likely to cause confusion in this stage are acute synovitis and intermittent hydrops or hydrarthrosis. In the former there is usually a history of more severe injury, more local pain and tenderness, and the effusion disappears more slowly.

Intermittent hydrops is a very rare disease, characterized by intermittent mild joint-effusions occurring without antecedent traumatism, and each attack followed by complete recovery. The various infectious forms of arthritis are much more painful and persistent and attended with more constitutional disturbances; the antecedent disease also suggests the diagnosis. In the hæmarthrosis of the hæmorrhagic diseases, such as purpura, etc., the accompanying petechiæ are indicative of the cause. In the second stage of hæmophilic hæmarthrosis, with its thickened capsule, limited motion, and beginning flexion, tuberculosis is suggested, but the absence of true spasticity, of free fluid in the joint, and of local tenderness, together with the lack of temperature, helps to exclude that disease. Arthritis deformans is distinguished by its slow onset, multiple involvement of joints, and the presence of bony or cartilaginous exostoses. In the third stage the clinical picture may be exactly that of an old tuberculous joint, with complete ankylosis and without evidence of suppuration, and a complete history of the case may be required. Before operating on any old ankylosis in which hæmophilia cannot be positively excluded, a test of the coagulability of the blood should be made.

For treatment of the first stage the author advises aspiration with a fine needle, followed by injection of adrenalin solution and a bandage for six hours. Use of the joint and massage are advised if an aspiration cannot be done. No fixation should be used after the first day. In the last stages, with a tendency to flexion, traction, followed by a splint or cast, is advised. Ankylosis in flexion might be corrected by forcible measures, but any cutting opera-

tion must be sedulously avoided. E. W. Ryerson (*Journal of the American Medical Association*, June 23, 1906).

HAY FEVER, ANTITOXIN TREATMENT OF.

As a result of larger experience with the antitoxin of Dunbar, the writer concludes that it produces prompt and positive amelioration of the symptoms of hay fever in a large majority of cases. In a smaller number this is accompanied with complete disappearance of the affection for that particular season. Where slight or no action is seen it is due to improper administration, while in a very small number some idiosyncrasy is undoubtedly active. When results are obtained it favorably influences all the manifestations of hay fever in the larger number of cases, while in a smaller class one or more of the symptoms seem to be most markedly influenced. When given during the attack of hay fever, irrespective of its severity, it produces palliation rather than absolute cure. When successfully used during one season, it does not prevent the reappearance of the disease the following season, although there is reason to believe that a slight influence in modifying future attacks does exist. The antitoxin is effective in both liquid and powder form, but the latter is preferable, as it is staple, does not require a preservative, and is more convenient for the patient. L. S. Somers (*The Laryngoscope*, May, 1906).

HEART-DISEASE IN CHILDREN, DIFFICULTIES IN DIAGNOSIS OF.

No examination of the heart is perfect without employing every means at command before concluding the diagnosis. Cardiac neurosis and hæmic murmurs should be decided upon only after an exhaustive search for a lesion. In

every febrile disease the heart should be examined. Impurities of sound are merely suggestive, and not conclusive of the presence of a lesion unless corroborated by additional evidence. No murmur, despite apparent typicalness, should in itself be considered pathognomonic of a special disease. All murmurs are variant, and may, in the early and late stages of heart-disease, be absent temporarily—posture also affecting their intensity, appearance, and disappearance. There is no disease more likely to escape detection for a long time or through life than disease of the heart, though easy of detection when attention is directed thereto. Repeated examinations of all people in early life, as is at present done in the schools of New York by the department of health, will disclose such cardiac diseases as exist, and, by instituting treatment, check or postpone their development, prolonging life, comfort, and happiness. Nathan Breiter (New York Medical Journal, July 21, 1906).

INFANT-FEEDING, IMPROPER, SURGICAL RESULTS OF.

There is no more important function for its welfare performed by a child than that of nutrition. The best foods, unwisely administered, can produce symptoms of improper feeding. They can often be seen in breast-fed babies. The fault may be with the child, and not with the food. At birth the alimentary canal is sterile. With the admission of organisms begins the decomposition of food-residues and the "intestinal education" of the child. There is a recognizable stage of toxæmia before any rickety signs are manifest. Treatment should be adopted then. The toxins are known to produce gross changes in some organs—rickets,

scurvy, etc.; presumably, therefore, they do so also in other structures as yet unknown to us. The gas-formation may produce inguinal and umbilical herniæ, divarication of the recti, large abdomen, bulging flanks, hydroceles, etc., also sowing seeds of weakness for the possible future development of herniæ, varicoceles, hydroceles, spermatoceles, etc., in the adult.

In the intestine itself many changes may occur—gastritis, enteritis, appendicitis, colitis, intussusception, etc. Adenoids are commonly a sign of rickets or improper feeding. Congenital syphilis is held responsible for many rickety changes. Childhood is the period in which the individual is rendered immune to the ordinarily-formed intestinal toxins, which become, in consequence, harmless to the adult. E. M. Corner (Clinical Journal, June 27, 1906).

INFANT-FEEDING, VARIATION IN THE FAT PERCENTAGE OF MOTHER'S MILK AS A FACTOR IN.

The importance of mother's milk cannot be overestimated. A physician should feel that he is taking the baby's life in his hands in lightly changing from breast milk, and should so impress the mother. Besides the immediate danger, which at times is not so great, it lessens the stamina for later years. A right start in anything is essential, but nothing is more important than a right start in life.

If there is some disturbance to the nursing infant, the breast milk should be examined, unless some cause, like tuberculosis, is at once recognized. It is not long since patients were pronounced anæmic upon looking at them, but to-day the hæmoglobin must be estimated. So must it be with the breast milk.

Fat is an important factor if only for its variability. The importance of the fats has increased lately since the Breslau investigators give them such an important rôle in infantile atrophy (marasmus). For the most part fat gradually increases in amount from the beginning to the end of a feeding, with occasionally a dip down at the end. As yet there is no proof that the increase is arithmetical. A baby that needs more fat than it is getting can easily be put to the breast after some milk has been pumped out. A fat percentage, within a few tenths of a per cent. of the average, may be obtained by taking equal specimens from the beginning and end of the feeding and examining the mixture. This is entirely practical clinically, and should be done. Louise Taylor-Jones (Archives of Pediatrics, July, 1906).

LABOR, ANÆSTHESIA IN THE FIRST STAGE OF.

In comparing the results obtained by the use of ether and scopolamine-morphine, the writer believes that the action of ether during the first stage of labor is more certain, and less liable to be followed by uncomfortable after-effects, than the use of scopolamine and morphine, but its administration involves more trouble to the attendant.

Definite results are to be expected from the use of scopolamine-morphine in combination in the majority of patients, and patients who are not susceptible to its effects do not seem to show any serious after-effects, while the frequency of operative delivery does not seem to be increased by its use.

The after-effects are slight when the dose is carefully limited, though the action of the uterus, after labor is completed, must be carefully observed, as

relaxation, with the consequent hæmorrhage, is a distinct danger. Scopolamine alone seems to have no effect in controlling the pain of labor, while morphine alone may control the pain satisfactorily, but has no effect in hastening dilatation.

Although there have been no serious results among the cases on which the writer bases his paper, one patient whose heart reacted badly serves as a warning against over-free or indiscriminate employment of this method of anæsthesia, and only a wider experience can prove whether the dangers are real or imaginary. F. S. Newell (Surgery, Gynæcology, and Obstetrics, July, 1906).

LEPROSY, IODOFORM IN THE TREATMENT OF.

Five patients with leprosy have been treated by the writer by means of subcutaneous injections of large quantities of iodoform, and he considers that a permanent cure has been effected in these cases. The remedy was used in the form of a 30-per-cent. emulsion in olive oil, of which from 2 to 8 cubic centimeters were injected daily under the skin in the neighborhood of the affected areas, and later, when these had become normal, in the subcutaneous tissues of the back, chest, and flexor surfaces of the extremities. He explains the superiority of this form of iodine medication by assuming that, on coming in contact with the tissues, the air being excluded, nascent iodine is set free and attacks the leprosy bacilli. He also suggests that the remedy be tried in tuberculosis; the good results obtained in its use locally for joint-affections indicating that when employed in more courageous doses it would produce equally satisfactory effects in pulmonary tuberculosis. The larger doses employed by the author

never gave rise to symptoms of intoxication. Diesing (*Deutsche medizinische Wochenschrift*, June 7, 1906; *Medical Record*, June 30, 1906).

LUMBAR PUNCTURE IN DIAGNOSIS AND THERAPEUTICS.

Lumbar puncture, properly performed, is attended by very little risk. In diagnosis it enables the determination of the presence or absence of a subdural hæmorrhage, to differentiate a purely serous effusion from that of an exudative inflammation. Its bacteriological examination, with positive findings, is the only conclusive test as to the exact character of a microbe infection of the meninges. Its cytology affords valuable aid in determining the presence of degenerative changes in the brain cord, in distinguishing those organic nervous lesions which involve the meninges from those which do not, or from functional disorders.

In therapeutics, lumbar puncture may have some value as a means of removing a toxic fluid, as in uræmia, certain skin diseases, or the acute infections of the meninges. It is a palliative measure for the relief of intracranial pressure from any cause, and in acute conditions, where the cause is a passing one, as hæmorrhage or acute inflammation with rapid and excessive exudation, it may possibly be the means of saving life. P. W. Monroe (*New York Medical Journal*, July 21, 1906).

LUPUS, FINSSEN LIGHT AND ROENTGEN RAYS IN TREATMENT OF.

The value of a treatment of lupus is to be estimated according as it fulfills the two requirements: first, that of destroying the diseased parts; and, secondly, of sparing all sound tissue. In so far as these conditions are fulfilled,

a good result will be arrived at, both from the point of view of complete recovery and of a good cosmetic effect. In certain cases the cosmetic effect is more important than the permanent healing, and, for example, a patient with extensive lupus of the face is more pleased with a good result as regards appearance, even if later, from time to time, the treatment of slight relapses should be needed, than with a permanent cure if that cure be accompanied by much disfigurement of the face. Histological examination as to the spread of lupus in the skin and subcutaneous tissue shows the difficulty of successful treatment, because in any area of lupus extension of the disease can be made out along the track of the vessels into healthy tissue, while even in regions where the infiltration is fairly dense areas of more or less normal tissue occur between infiltrated parts; an elective power is therefore needed in the means employed.

Of the earlier methods of treatment, certain caustics, and especially pyrogallie acid, most nearly answered the above demands; but the newer methods, and especially the Finsen treatment, have surpassed the older methods, especially with respect to the cosmetic results to be obtained. At an earlier time the present author was opposed to the Roentgen-ray treatment as a sole treatment of lupus, but now he has modified this opinion and believes that the bad results obtained were due to a too free use of the rays. There is no doubt that Roentgen rays possess an elective power in a very marked degree. Their use is especially indicated in cases with much infiltration, in cases of lupus elephantiasis, cases of luxuriant growth, and those with extensive ulceration. A combination of Roentgen-ray treatment and

that of Finsen light has also been found most effectual. By means of Roentgen rays the great mass of the lupus infiltrate is destroyed, and later, by means of the Finsen light, the single small area can be dealt with.

The doses of Roentgen are to be calculated so that they give rise to an erythema, but never to a moist dermatitis or to ulceration. A few stronger applications of the rays are preferred by the author to many weak ones, but in every case the initial dose should be small, in order to allow for any individual peculiarity. In slight cases, where full healing is hoped for, the results with Finsen rays are so good that this treatment is to be preferred to excision, as giving rise to the formation of a less obvious scar.

The two conditions which are favorable to light treatment are (1) affections of the mucous membranes, and (2) extensive scarring caused by previous active treatment. The mucous membranes of the face are almost inaccessible to the Finsen-light treatment, and the Roentgen treatment is only applicable to lupus of the mucous membranes within certain somewhat narrow limits, while lupus nodules lying in the deeper part of the thick scar tissue are inaccessible to the light. Very extensive infiltration is another circumstance which makes treatment difficult, and in such cases the Finsen or Roentgen-ray treatment is the only one to give even a moderate result.

The confidence of the public in the new methods of treatment is in itself helpful. The patients tend to come for treatment at an earlier stage than used to be the case—before the face has been scarred by the use of caustics, etc. The scars after the Finsen-light treatment are soft, never keloid, and are accessible

to further treatment should a relapse occur. While the Finsen treatment does not make other methods superfluous, it yet takes the first place amongst them. In a great number of cases it leads to permanent recovery, and that with a better cosmetic result than from any other method. E. Lesser (*Zeit. für Phys. und Diät. Therap.*, February, 1906; *British Medical Journal*, July 7, 1906).

NEURALGIA.

The occurrence of degeneration of the peripheral nerve is frequent, if not constant, in neuralgia. This nerve-degeneration is very probably a primary condition, which, as a neuritis, assumes an ascending course and involves secondarily the Gasserian ganglion. Although this contention is still debatable, the writer considers that there is great probability in favor of the above view. The blood-vessels undoubtedly play a certain rôle in the causation of a degenerative state of the peripheral nerve. It is difficult, if not impossible, to draw a sharp distinction between neuritis and neuralgia, as accumulated facts show an anatomical basis in the latter affection.

In view of these anatomical facts, the writer considers that it is highly important to remove surgically a nerve affected with so-called neuralgia, as early as possible after a short trial of medical treatment is given. Alfred Gordon (*New York Medical Journal*, July 21, 1906).

OBESITY, THYROID TREATMENT OF.

The author reports his experience of treating adiposity rationally and ideally by thyroid substance. He states that, basing his opinion on some experiments carried out in the dog, it ought to be possible to carry out a reduction treatment with thyroid, under definite con-

ditions, without sacrificing the body albumin and without disturbing the nitrogen balance of the metabolism. The course must be rendered safe, if it is to find general acceptance. He quotes the cases (three in number) in which he administered thyroid tablets and at the same time overfed with nitrogenous material, in such a way that while the weight dropped steadily no unpleasant symptoms occurred.

In order to ensure that the thyroid administration is free from danger, the following points must be considered: An idiosyncrasy against the drug must not exist; the writer is inclined to believe that this is not so common as is usually believed. In the first place, the drug may not be pure, and the products of decomposition may act somewhat in the same way as ptomaines do; or auto-suggestion on the part of the patient may be the cause of the intolerance. In any case, it is necessary to begin with extremely small doses in every case. The dosage must be correct if the drug is to be given safely. The small dose to begin with has already been mentioned, and it should then be slowly increased until a dose is reached which just affects the fat of the patient. The scheme which the author follows is to give one tablet each day at first; after the lapse of two or three days he gives two, three, and so on. The tablets should be well masticated. Seven or eight tablets per day is approximately the maximum dose available. Bad preparations have been the cause of certain of the toxic symptoms of thyroid medication. Decomposition is less likely since the use of fresh thyroid-gland substance has been given up, and if care is taken to use only good and well-prepared tablets this risk disappears. The last danger depends on the fact that the

reduction in weight is often attained at the expense of the body albumin. In his experiment on the dog, the writer has shown that it is possible to allow the nitrogen intake to exceed the output on the daily average. Overfeeding should be practiced during the treatment, and at least 3,000 calories given. This should be largely albuminous, and at all events not less than 20 per cent. of the total diet. The thyroid tablets should be given for not longer than four weeks at a time. The author does not wish to advise thyroid treatment in the place of diet reduction, but he finds that by its means much can be attained conservatively. The treatment, however, always necessitates a very strict control. M. Rheinboldt (*Berliner klinische Wochenschrift*, June 11, 1905; *British Medical Journal*, July 14, 1906).

PELVIC DISPLACEMENT AND PAIN IN THE FEMALE.

Pelvic viscera are supported chiefly by the underlying pelvic floor. The pelvic floor consists of a muscular diaphragm composed in the main part of the levatores ani and their investing fascia, which actually attaches the viscera to the floor. The pelvic floor is adequately supported by its attachments to the circumference of the pelvis, but is weak in the mid-line, where it is perforated by the rectum, vagina, and urethra. The efficiency of the pelvic floor depends upon the union of its two halves in the mid-line. Displacements of the uterus, bladder, and vagina, apart from diseased conditions, depend upon a rupture, stretching, or thinning of this median raphé.

The adequate and rational treatment of these conditions consists in a repair of this muscular raphé, either in the perineum or by forming a new second

line of muscular union between the vagina and bladder. The use of a pessary constitutes a reasonable second-best treatment, but this will only be possible when the gap between the edges of the levatores ani is narrower than the diameter of the pessary. When the pelvic viscera lose their adequate support by the pelvic floor, they hang upon their peritoneal "ligaments," and this causes pain by dragging upon the ovaries, tubes, and pelvic nerves. E. W. Hey Groves (Bristol Medico-Chirurgical Journal, June, 1906).

PERITONEUM, ROLE OF, IN ABDOMINAL SURGERY.

The varied lymphatic supply produces a variance in the behavior and manifestations of the different abdominal viscera, and may account for the diseases most frequently manifested in some of them. The normal peritoneum possesses marked powers of exudation and absorption. Both of these functions may be life-saving or death-producing, according to the asepticity of the peritoneal cavity. While all parts of the peritoneum are capable of both exudation and absorption, the lower, or pelvic, zone is most exudative, and the upper zone most absorptive. The difference in relative powers of upper and lower zones explains satisfactorily the evident fact that infections in the upper peritoneum are more acute, more serious, and produce marked symptoms more promptly than in the lower, and the operations in the upper zone are attended with greater risk than those in the lower abdomen. In aseptic cases, restoration of circulatory equilibrium may be favored by the introduction of fluids into the abdomen and its absorption, favored by Clark's inverted position. In septic conditions, absorption

should be lessened, exudation localized in the lower abdomen, and its rapid external drainage provided for by Fowler's sitting position and the use of large tubular drains. As the condition of the peritoneum and the recuperative powers of the patient are equal factors with asepticity in attaining results, time and trauma are especially important elements in successful abdominal surgery. A. J. Bouffleur (Southern California Practitioner, June, 1906).

PHTHISIS, CAMPHOR IN THE TREATMENT OF.

During the last nine or ten months the writer has made use of injections of 10 per cent. camphor-oil in the treatment of cases of phthisis complicated by a weak, rapid pulse, a regular but weak pulse, or by an irregular or unequal pulse. He uses the camphor in large doses, in some cases giving as much as 0.4 gram of camphor in the twenty-four hours. The injections can be given every day for weeks or months without intermission, and the author believes that it is only by the use of large doses given for long periods that a marked and permanent effect upon the heart can be obtained. The first case in which the author tried this remedy was that of a tuberculous man, who, after influenza, began to suffer from attacks of breathlessness and cyanosis. Oxygen was freely used in these attacks, and apparently but for the oxygen the patient would have succumbed. In addition to the oxygen, injections of camphor-oil were made every ten or fifteen minutes during the height of each attack, and later at intervals of from a quarter to half an hour. The patient gradually recovered, and six months after the first attack was able to walk about; the pulse by this time had sunk

to 100 per minute. Camphor was again exhibited, and after another month the pulse-rate had fallen to 80. The author was impressed by the benefit derived from camphor in this acute case, and he therefore began its use in chronic cases of heart-weakness in tuberculosis. The results he obtained were strikingly good. In the case of one patient, who had for years had an irregular thread-like pulse of from 140 to 150 per minute, a course of camphor treatment was followed by a fall in pulse-rate to from 110 to 120 per minute, while the pulse became always readily perceptible. In another case a patient with disease of both lungs and marked shortness of breath had a pulse of 130 when she came to the sanatorium. Under general treatment she gradually improved, but neither the pulse-rate nor the shortness of breath showed any change. Camphor injections were now begun, and the pulse-rate fell to 90 per minute. Another successful case was that of an excitable man with an irregular pulse of 120 per minute. After six weeks of camphor treatment the pulse lost its irregularity, and the rate fell to 90.

During the treatment the patients are subjectively improved. The author has never found camphor injections harmful. In one case, in which 300 injections in all had been made under the skin of the forearm, four small abscesses formed, but they were clearly traumatic in nature. The injections were supposed by Nienhaus to dispose to hæmorrhage in phthisis, but the author's observations do not support this view, and in one of the cases of hæmoptysis treated by him the pulse came down from 130 to 80 in forty-eight hours under the camphor treatment. He would add to the number of effective

remedies in phthisis 10 per cent. camphor-oil given subcutaneously in sufficient amounts and for an adequate length of time; the injections undoubtedly increase the strength of the heart, and so influence favorably the tuberculosis. Volland (*Therap. Monats.*, February, 1906; *British Medical Journal*, June 9, 1906).

PHTHISIS, INHERITED PREDISPOSITION: DIAGNOSIS AND TREATMENT.

The inherited syphilitic taint is styled by the writer, the one important inherited predisposition to consumption. The syphilitic taint may be so slight as not to be recognizable by ordinary diagnostic aids. It may date from the third or fourth preceding generation, he states, but it can be detected by the tendency to interposed harsh breathing (*Rauschen*). The inspiration begins with vesicular breathing, but this ceases abruptly and is followed by harsh breathing as the inspiration continues, followed by normal or vesico-bronchial expiration. This interposing of the harsh breathing is extremely characteristic. The anatomic basis of the sound is proliferation of the connective tissue or hypertrophy of a cirrhotic lung, similar to the hypertrophic cirrhosis of the syphilitic liver. Another sign of this latent inherited syphilis is the tendency to scaling after injection of the *Perlsucht* tuberculin. The writer has noticed further that all persons with a tendency to rachitis exhibit the same harsh breathing and scaling, and this has convinced him that rachitis is the result of syphilis in some preceding generation. Other signs of this special predisposition are a tendency to snoring breathing; the lack of proportion between the extent of the physical signs of tuberculosis and the slight general manifesta-

tions; the early and predominant tuberculous involvement of the larynx, especially in the case of existing diabetes in comparatively young subjects; the obstinate anæmia unexplained by the pulmonary affection; and the intense hyperleucocytosis in the sputa, with disintegration of the nuclei. Evidence is presented by the author to prove that it is easy to control this predisposition and, by holding it under control, to remove the factors that favor progression of the tuberculous infection. This is accomplished by means of the precutaneous administration of iodine, it being rubbed into the skin in the form of a salve. Iodine internally is ineffectual. The characteristic symptoms rapidly subside under this treatment, supplemented perhaps by inunctions with corrosive sublimate. As these symptoms subside, the conditions predisposing to tuberculosis are banished. The writer states that he has been able to cure 100 per cent. of his patients with tuberculosis in the early stages by combining this iodine with his bovine tuberculosis tuberculin treatment. The leucocytes of these *Erbdisponierter*, as he calls them, are less bactericidal than normal leucocytes, and it is exceptionally hard to confer agglutinating properties on their serum. After adequate iodine treatment, however, these differences from the normal are no longer seen. C. Spengler (*Deutsche medizinische Wochenschrift*, Bd. xxxii, Nu. 15; *Journal of the American Medical Association*, June 16, 1906).

PNEUMOCOCCAL ARTHRITIS.

While pneumococcal affections of joints secondary to some other lesion, such as pneumonia, empyema, or otitis, are quite common, primary pneumococcal arthritis, in the absence of any other

signs of infection, is rare. It is especially rare in adults, being usually met with in children. The channel of infection is the blood-stream, and the access of a microörganism to the blood-stream implies some injury to the, smaller vessels at the point of attack, leading to stasis and possibly thrombosis. Through the devitalized vessel-walls the organisms make their way, or small portions of infected clot are detached and disseminated throughout the circulation. In primary pneumococcal arthritis it must be assumed that a slight injury of a mucous membrane or of the skin provides the means of entry. This usually occurs in the middle ear, mouth, nasopharynx, or tonsils, in which places the diplococcus of pneumonia is frequently present. Many cases of sore throat are due to this organism. No hard-and-fast lines can be drawn between primary and secondary pneumococcal arthritis; but where the arthritis is primary and localized, there is no reason to assume any extensive or lasting infection of the blood. Often the trivial initial lesions penetrate into the blood, and the supply is cut off, and the tissue-cells do not have to contend with a recurring supply, as is the case where the arthritis follows a pneumonia or an empyema, so that the prognosis is better in the primary than in the secondary cases. In the latter there is usually a more or less pronounced septicæmia. In a very puzzling group of cases the symptoms of the joint-affection appear some days before the lung-trouble. It is not clear why the diplococcus of pneumonia should at times show a selective preference for the tissues of a joint. Injury to a joint predisposes to such infection, but a history of the injury is rarely obtainable. It is probable that the records available do not convey

an accurate idea of the frequency of this form of arthritis, as many slight cases, which recover without surgical interference, must escape bacteriological examination. W. Pasteur and L. Courtauld (*Lancet*, June 23, 1906).

PNEUMONIA, FRESH AIR IN THE TREATMENT OF.

The bracing and tonic effect of a steady cold is as follows: The principal influence exerted is that upon the nervous system; this is evidenced by its calming effect and the refreshing sleep induced thereby. The appetite and digestion noticeably share in the beneficial influences of this natural agency. In this connection it should not be forgotten that in a cold climate the system demands more nutritive material than in a warm one, or otherwise there will occur a loss of bodily weight. Fortunately, it is found that patients treated with cold air can take more nourishment than those subjected to other methods, and readily assimilate it. Under the influence of low temperature the heart's action becomes slower and the pulse-tension increased—a desirable object to be attained in the treatment of lobar pneumonia. Cold exercises a tonic influence upon the nerves and vessels in the skin, and indirectly it has an important effect in lessening the tendency to internal congestion. Again, cold acts potently in stimulating the respiratory function, and as an immediate consequence more oxygen is absorbed. It is obvious that an atmosphere containing the full complement of oxygen is demanded in pneumonia—a disease in which a large proportion of the air-cells are rendered functionless. But the fresh-air treatment should not be undertaken without due deliberation upon the peculiarities presented by

the individual case. Thus, in certain forms of secondary pneumonia it might be inadvisable. In general terms, it may be said that this measure is contraindicated in exceptional instances only. Among the particularly beneficial effects observed from the constant breathing of fresh, cool or cold air are a better general condition and increased strength, an improved appetite and digestion, refreshing sleep, lessened severity of the cough, diminished breathing rate, fever, and pulse-rate; in short, a less marked toxæmia than in cases treated by the more usual methods. The nervous system, however, partakes largely in the general favorable effects. J. M. Anders (*Medical Record*, July 7, 1906).

PUERPERAL ECLAMPSIA, PROPHYLACTIC TREATMENT OF.

The first step in the prophylactic treatment of puerperal eclampsia is so to manage cases of pregnancy as to reduce to the smallest possible number the cases of toxæmia. When the physician's watchfulness has discovered that in spite of such management there is toxæmia, the case should be vigorously treated at the beginning, going to an extreme with it, and only terminating the treatment as the results of it justify.

When labor begins the urine should be examined as soon as possible after the case is reached; it should be examined again during and after labor. Chloral should be given at the onset of labor, and continued till danger is past. If the symptoms become more pronounced as labor advances, it should be terminated. If, at the close of labor, symptoms are present, either of impending eclampsia or even of a remote chance of eclampsia, the case should be

treated as if the convulsions had already occurred, and in this way the actual occurrence of many that will come if nothing is done, may be prevented F. S. Clark (Surgery, Gynecology and Obstetrics, July, 1906).

PULMONARY TUBERCULOSIS IN ITS RELATION TO OBSTETRICS.

Active pulmonary tuberculosis and pregnancy constitute a dangerous complication. Pregnancy exerts an unfavorable influence on pulmonary tuberculosis, both immediately and remotely, during the puerperium. Measures should be taken to prevent the complication in women who are subjects of active tuberculosis. These measures may include the avoidance of marriage and the prevention of conception. If the principle involved in the question of interrupting pregnancy is right, there are, occasionally, indications in the cases under consideration. Artificial sterilization is of doubtful utility. Obstetric tuberculosis could be best treated in special institutions, for which a field exists. F. H. Washburn (American Medicine, June, 1906).

QUININE PROPHYLAXIS.

From his experiences of quinine prophylaxis in the case of the troops in Southwest Africa, the writer concludes that quinine hydrochlorate given in powder is the best form of administration for prophylactic purposes. Prophylaxis can be more easily carried through if the bitter taste of the drug be hidden, and the use of cachets or gelatine capsules is therefore strongly recommended. As a general rule, the dose of quinine should not be less than a gram, and it is only in the case of people who suffer severely from the side-effects that the dose may be diminished or may be

replaced by 1.5 grams of euchinine. In most neighborhoods adequate protection is given if the quinine be taken every eighth and ninth day; and the dose is best given, if it is convenient, in the morning before breakfast, when the powers of absorption are most active. In the Northern States it must be left to the physician to decide whether quinine should be given more frequently than every eighth and ninth day. The keeping of a quinine calendar, in which the days for taking quinine are clearly marked, is advisable. A specially stringent prophylaxis is needed for native troops. A date for beginning the prophylaxis depends on the date of appearance of the *Anopheles* and on the prevailing temperature; frequent estimations of the temperature are needed. Permanent injury from the long use of quinine was not in any case observed. Morgenroth (Arch. für Schiffs- und Trop.-Hyg., Bd. x, Nu. 5; British Medical Journal, June 23, 1906).

RADIOTHERAPY AND RADIUMTHERAPY, PRINCIPAL FACTORS IN.

The true nature of the active agent in radiotherapy, much disputed at first, has been definitely determined, and proved to be the pencil of rays emitted by the anticathode. This pencil of x-rays was proved not to be homogeneous, but to consist of a whole gamut of different rays, distinguishable by their equal powers of penetration. Next, the reaction was shown to depend chiefly on the quantity of rays absorbed, and Holzknecht invented an ingenious method of measuring the dose of rays employed. Once possessed of a fairly accurate means of measurement, the new science advanced rapidly by leaps and bounds. Confined at first to the treatment of certain dermatoses, it soon extended its

field of action to the more obstinate forms of neoplasm.

The two principal factors in radiotherapy are the quality of the rays emitted by the focus tube and the quantity of rays absorbed by the tissues. The following are the general rules which should govern the matter in dosage: The full therapeutical dose should be given in a single application, so long as this dose does not exceed the dose which usually determines reaction of the integument. If a larger dose is required, a dose should be given at each sitting which is the maximum dose compatible with the integrity of the integument, each irradiation being separated by the minimum interval necessary to secure this integrity.

The discoveries of Becquerel, M. and Mme. Curie, Debierne, Rutherford, and others have provided medicine with a new agent capable of producing in the tissues effects analogous to those caused by the x-rays. Certain lesions subjected to the action of radioactive substances have shown marked amelioration, and, although still in its infancy, radiumtherapy has already its own technics. It is probable, however, that investigations now in progress as to the therapeutical effect of the radium emanation will open up a new field for radiumtherapy. The possibility of introducing this emanation into small cavities, and of condensing it by means of liquid air, and thus incorporating it with vaseline or some other vehicle, is of the greatest interest from a medical standpoint.

In radiumtherapy, not less than in radiotherapy, the question of quantity is of vast importance, and is unfortunately quite neglected in the majority of observations published on this subject. It is not enough to say that in a given

case a specimen of radium was used of such-and-such activity; it is of equal importance to know the amount of the radioactive substance used. J. Belot (Archives of the Roentgen Ray, July, 1906).

RADIUM IN SURGERY.

Very powerful radium applications have been employed by the writer in 127 cases, covering a large number of conditions. The greatest interest is in the morbid growths, such as lupus, epithelioma, sarcoma, etc., and he remarks here that in every case in which he has laid a radium tube on a wart the growth has rapidly disappeared by retrograde degeneration of the cells composing it. In thirty-five cases of lupus and epithelioma all have shown improvement, and twenty patients have recovered, at least for the time. In the graver cases of cancer the results are less favorable. Of eleven operable cases tested, six patients were subsequently operated on. In the other five the operation was deferred on account of improvement.

The writer thinks that possibly, with the use of radium in some other way than with the thin glass tubes employed, better results may be obtained. In one type of grave cancer, mammary cirrhosis, the agent seemed to promise good results. In three cases, in which the breast was subsequently amputated, microscopic examinations showed characteristic retrograde changes, which may explain the improvement in four others similarly treated. In sarcoma, the results were rather brilliant, and several cases are detailed. In two cases of spindle-cell sarcoma there was only seeming arrest, but no retrograde changes so far as observed.

In overdosage, or with too long exposure, radium rays are destructive

rather than alterative, and the author has seen toxic conditions aroused by overzealous methods. Experience in goiter encourages further experiment, but not positive claims as to specific benefits. In pigmented moles, removal by dry necrosis can be produced, and results possibly better than by the other methods.

The author sums up his conclusions as follows: Radium action resembles that of Roentgen rays. It differs specifically, and will cure some cases promptly which resist the latter. It is applicable to the interior cavities of nose and mouth, inaccessible to the Roentgen rays. It is curative in most superficial epithelial cancers and lupus, but has failed of curative action as yet in forty cases of grave internal cancers. R. Abbe (*Journal of the American Medical Association*, July 21, 1906).

ROENTGEN RAY AND GROWING TISSUE.

The writer reports the results of a series of experiments on young animals and also on growing plants, which, he believes, prove that a single and transient application of the Roentgen rays, less intense than when used for ordinary therapeutical purposes, is capable of causing a decided arrest of growth of young and active tissues in the exposed parts of the body. The older the animal, the less marked is the action of the rays in this respect; and with very young animals the effectual dose of the rays is much reduced. These results would seem to indicate that the therapeutical use of the Roentgen rays should in young children be restricted to cases only of malignant growth and leukæmia, and in these exceptional instances be made under strict precautions in regard to the thorough protection of the sound parts of the patient's body.

Each sitting should be as brief as possible, and, by reason of the cumulative action of the Roentgen rays, the treatment should not be frequently repeated. The minimum dose of the rays that might cause mischief has not yet been determined. Fösterling (*Zentralblatt für Chirurgie*, Nu. 19, 1906; *British Medical Journal*, June 23, 1906).

RUPTURE OF THE UTERUS, TREATMENT OF.

It is pointed out by the writer that by far the greater number of cases of rupture of the uterus occur, not in large towns, in hospital or superior private houses, but among the patients of the general practitioner, in the dwellings of the poor and in the country. In such environment the preparations for operation are too complicated and take too long. To move the woman is dangerous and increases the risk of hæmorrhage and infection, and conservative treatment that can be carried out on the spot is therefore to be preferred. Most of the hæmorrhage in rupture comes from the seat of the placenta and from the tear itself, and after the delivery of the child resembles atonic secondary hæmorrhage. Only in from 12 to 15 per cent. of the cases does the blood come from the parametria and uterine arteries, and consequently plugging is generally sufficient to arrest the hæmorrhage, and laparotomy is not necessary for hæmorrhage in more than from 12 to 15 per cent. of all cases. The second indication for laparotomy, the complete escape of the child into the abdominal cavity, occurs, at the most, in from 7.2 to 16.1 per cent. of all cases; only then is laparotomy strictly indicated, though in practice perhaps impracticable. In all other cases delivery may be effected through Nature's ways.

The conservative treatment consists in plugging or drainage; doubtless plugging properly effected (that is to say, a firm tamponade of the local field of hæmorrhage) is far superior to drainage, and therefore indicated in atony of the uterus itself, or in hæmorrhage from the tear and parametrium, always supplemented by an external compressing bandage, plugging of the vagina, and bringing and fixing the legs together. According to Klein's statistics, 59 per cent. of (70) plugged ruptures were cured and 81.5 per cent. of (38) ruptures treated by drainage; but the latter were generally slighter cases without serious bleeding. Of 140 women subjected to laparotomy, 53.6 per cent. recovered. Moreover, the results of the operation, where not strongly indicated, were more favorable than where it was so. The mortality was particularly high in women transported undelivered and afterwards operated on; in whom infection was the most prominent factor. The mortality varies directly with the extent and duration of the operative measures in the abdominal cavity. Laparotomy is to be reserved for cases under observation in a klinik. In a very few cases it is possible, under the strongest indications, to recommend the transport of the woman to the klinik, and to perform the operation there; otherwise moving the patient is to be avoided, and the rupture must be treated on the spot by plugging and the application of a firm binder. Even cases in which the bladder is injured also do best with plugging and a retained catheter. Of the methods of operative treatment, total extirpation by laparotomy, with suture of the serosa, has recently proved most successful. Eversmann (Archiv f. Gynäkologie,

Bd. lxxvi., S. 601; British Gynæcological Journal, May, 1906).

SALICYLATE POISONING IN CHILDREN.

Salicylate of sodium sometimes causes, in children, symptoms resembling the acid-poisoning of diabetes. The toxic dose is variable, depending on the idiosyncrasy of the patient and the presence or absence of constipation. Acetone may be detected in the urine and in the breath, its presence constituting one of the first symptoms of the poisoning, and affording a valuable danger signal.

Treatment should be directed to keeping the acidity of the urine low and the bowels opened, in cases of patients taking this drug. If acetone is found, or the urine gets more and more strongly acid, the salicylate should be omitted and alkali given alone. Frederick Langmead (Lancet, June 30, 1906).

SCURVY, THE BLOOD IN.

A careful investigation of the blood has been made by the writer in a case of scurvy. In this disease, though it is known as a "blood infection," comparatively few cases are recorded where the blood has been systematically examined by modern methods of technique. In the author's case the blood showed a marked diminution in the erythrocytes, which advanced from day to day, until the number was reduced to one-sixth of the normal. Concurrently with this diminution, the hæmoglobin percentage fell to an even greater degree. There was a steadily advancing leucocytosis, with a corresponding diminution in the lymphocytes; and poikilocytosis was observed, with polychromatic degeneration of the erythrocytes and the appearance of normoblasts. These char-

acters correspond to the course of a severe, simple, posthæmorrhagic anæmia running a subacute or chronic course. The presence of myelocytes in small numbers is regarded by the writer as a sign that the bone-marrow was stimulated to reparatory activity. Megaloblasts were only found on one occasion. The percentage of albumin in the blood serum was tested and found to be from 5.5 to 6 per cent., an amount which is considerably below the normal. Cultures of the blood in nutrient bouillon failed to yield any bacterial growth.

The post-mortem examination corroborated the clinical evidence of extensive hæmorrhages and advanced anæmia. The microscopic examination of sections and smear-preparations from the spleen and lymphatic glands showed that there was no deviation from the normal structure and no change in the cellular contents. The medullary substance of the vertebral bodies was red, and the same appearance was observed in the epiphyses of the femur, whilst in the diaphyses the color was yellow. Erythrocytes were present in notably diminished numbers, and consequently the proportion of white corpuscles was greatly increased, but no individual types of white cells were found in excess of the normal proportions. Senator (*Berliner klinische Wochenschrift*, April 23, 1906; *British Medical Journal*, July 7, 1906).

SELF-POISONING.

Man, says Bouchard, stands continually on the brink of a precipice, the threshold of disease due to self-poisoning. From this he is held back by the restraining influence of the gastric juice and other digestive secretions, and by the constant efforts of the eliminant organs. Stop the excretory operations

of the lungs, and he dies in a few minutes; of the skin, and death is a matter of a brief period; of the kidneys, and he dies in some hours; of the bowel, and the fatal issue is simply longer in coming, but no less certain. It is now known that the liver stands in the way of the ingress of poisons and turns much noxious material back into the bowel for excretion. W. C. Abbott (*American Journal of Clinical Medicine*, July, 1906).

SORE THROAT, ETIOLOGY AND THERAPEUTICS.

The author is a firm advocate of the theory to remove the adenoids and to sterilize the nasopharynx at the earliest possible moment. Whenever an acute inflammation of the throat is discovered, the presence of a chronic affection of the same must be predicted. In eliciting the presence of the symptom of soreness of the throat, the patient should be asked if there is soreness or pain upon swallowing; then, by watching the act performed, it may be noted if there is difficulty or slowness, or if the head is held in any favored position. The fauces should be examined under a good illumination to determine to what extent, and upon which side, an acute process is situated. The sides of the neck should be examined for tender lymphatics and glands. The nose should also be examined, and its condition noted as regards smelling and secretions. In the majority of cases, study of the character of the voice will determine the location of the more important lesions. Hoarseness indicates affection of the parts below the pharynx. A nasal tone implies obstruction, and the type of tone varies with the location; deeper, if postnasal; high-pitched and feeble, if nasal; in a monotone and re-

pressed if there is exudation and swelling as in tonsillary abscesses. E. A. Spear (Boston Medical and Surgical Journal, July 12, 1906).

STENOSIS OF THE PYLORUS, HYPERTROPHIC, IN INFANTS.

In the treatment of hypertrophic stenosis of the pylorus in infants, in the opinion of the writer, preference should be given in selected cases to pyloroplasty, as it is, physiologically, anatomically, and surgically, the more correct procedure, and, upon the authority of Dent, it can be performed as easily and quickly as posterior gastro-enterostomy. Early diagnosis and early operation, before the infant has had an opportunity to lose much in weight, or has become greatly emaciated and enfeebled, so that its reparative power is greatly reduced or lost, is more essential to a successful outcome of surgical treatment than the method of operation, other things being equal. As in most abdominal surgical diseases, of which this must be considered one, delay is generally fatal. A. L. Fisk (Annals of Surgery, July, 1906).

SYPHILIS, INJECTIONS OF BINIODIDE OF MERCURY IN.

Observations of twenty cases of syphilis treated by hypodermic injections of biniodide of mercury in aqueous solution combined with iodide of sodium are reported by the author. His conclusions are that the solution acts very favorably on all syphilitic lesions, especially those of the tertiary stage; the rapidity of action is marked, the efficiency is marked, greater in some instances than that of calomel or corrosive sublimate; the injections are not painful; they do not produce nodules of infiltration, or such as are produced are indolent; they are always

well borne; they do not produce mercurial stomatitis under the usual conditions. For all these reasons biniodide of mercury in solution with sodium iodide, used by hypodermic injection, may be regarded as one of the best preparations for the treatment of syphilis, especially in the tertiary stage. Eugenio Sipari (Giornale Internazionale delle Scienze Mediche, April 30, 1906; Medical Record, June 30, 1906).

TRIGEMINAL NÆVI AND INTRACRANIAL HÆMORRHAGE.

The author calls attention to a possible connection between congenital birthmarks in the facial region and spontaneous intracranial hæmorrhages. Noting the topographical correspondence that often exists between these birthmarks and the distribution of branches of the fifth nerve, he remarks that there is much in favor of Baerensprung's idea that these nævi correspond with lesions occurring in the Gasserian ganglion. Three cases are reported of such nævi in which certain complications occurred, due, as the writer interprets them, to the fact that the cutaneous lesion may be accompanied by a similar condition of the vascularity of the dura mater, which is sensitized by filaments from the same nerve. In the three children, all of whom were born with vascular nævi corresponding to branches of the fifth nerve, there occurred intracranial hæmorrhages and convulsions, and in two of the cases contralateral spastic hemiplegia. In one of the cases which came to post-mortem, a notable fact was the smallness of the Gasserian ganglion and a meningeal nævus on the same side as the external one. The same condition of meningeal nævus existed in a second child who was oper-

ated on. In the review of the literature, the writer has found one report, by Strominger, of a similar nævoid condition of the meninges leading to hemiplegia, associated with a facial cutaneous nævus in the trigeminal region of the same side.

Vascular nævi of the face have a tendency to correspond with the distribution of one or more main branches of the trigeminus. These cutaneous nævi may be associated with some degree of hypertrophy of the deeper tissues of the face, with an enlargement of the eye and also with a corresponding nævoid condition of the dura, which may lead to a spontaneous intracranial hæmorrhage, with results similar to those of the subdural hæmorrhages in infancy from other causes. Absorption of the clot may lead to corticodural adhesions, which, in favorable cases, can be separated with benefit as regards the convulsion, etc., provided measures such as carotid ligation are taken to prevent complications from hæmorrhage. H. Cushing (*Journal of the American Medical Association*, July 21, 1906).

TUBERCULOSIS, INGESTION OF SEA-WATER IN.

Several cases of pulmonary tuberculosis have been treated by the writer by administering by the mouth small quantities of sea-water, with a view to seeing if as good results could not be obtained by this method as by the method of subcutaneous injection of sea-water carried out on phthisical patients by Quinton. In 2 out of 4 cases treated by ingestion of sea-water a well-marked remission of the disease was obtained. The author found the best results were obtained with patients in the first or second stages of the disease;

of 10 such cases, in 8 the appetite and general strength improved, the expectoration diminished or ceased, and at the end of a few weeks a very marked amelioration of the lung-signs occurred in 4 cases. These favorable results obtained by the administration of sea-water are considered due to arousing the flagging digestive powers, and a comparison of the results obtained in patients treated by this method and in those in whom this treatment was not carried out (although the other customary treatment for phthisis was employed in both classes) has convinced the author of the benefit to be obtained by this method of treatment.

This method possesses advantages over the subcutaneous injection plan in that sudden rise of temperature, headaches, backaches, etc., sometimes produced by the latter method, are generally either entirely wanting or very slightly marked.

The author has further found the ingestion of sea-water of use in cases of dyspepsia associated with a diminution of the quantity of hydrochloric acid in the gastric juice; in such cases he finds a rapid increase of the appetite and a marked improvement of the general health.

For administration, the sea-water must be freshly obtained and filtered; sterilization by heat impairs its therapeutic powers; it must be taken on an empty stomach, at first in spoonful doses, half an hour before the two principal meals of the day; in a few days' time the dose may reach half a tumbler. The treatment should be discontinued after every eight or ten days and then resumed a few days later. Jacques Carles (*Prov. Méd.*, May 26, 1906; *British Medical Journal*, July 14, 1906).

TUBERCULOSIS, IODINE IN THE TREATMENT OF.

The writer has employed iodine in the treatment of tuberculosis, for some years, according to a special formula. He was led to use it in this way because of its usefulness in tuberculosis in general, and also from the fact that the reputation which codliver-oil has enjoyed in the treatment of tuberculous conditions was probably due to the action of iodine and similar substances. The solution employed by him is composed of precipitated iodoform, which contains 96 per cent. of iodine, 100 grains; acacia powder, 125 grains; glycerine, 200 minims; carbolic acid, 5 minims; and boiled distilled water, 300 minims. The value of solutions of iodoform for injections into tuberculous joints has long been recognized. The writer contends that it is also useful in other tuberculous conditions, and that such injections have a constitutional action as well as a local effect. The site chosen for the injection is the space between the left acromion and the capsule of the shoulder-joint. The solution prepared according to the formula is sterilized, and the injection made with a syringe containing a metal piston which can be made surgically clean. After the disinfection of the skin over the shoulder-joint, a point corresponding to the tubercle on the posterior part of the acromion is located and the skin just below it is frozen with ethyl chloride. The needle is inserted close to the bone and the solution slowly injected. The syringe should have a fine needle, and after the injection the arm should be fixed to the body and the part covered with sterilized gauze and a bandage.

At first as high as 48 grains of the solution was given, but this was found

to produce a severe reaction. Since then the quantity in non-pulmonary cases has been reduced to 12 to 24 grains, and in pulmonary cases from 8 to 12 grains. If the disease is extensive and there is much depression, smaller doses should be employed, repeated more frequently. Commonly 12 grains are employed every two weeks. Tonics should be used, and during the reaction following the injection it is well to give 10 minims of diluted phosphoric acid and strychnine phosphate $\frac{1}{30}$ of a grain. In addition, iodine may be given by the stomach. It does not disturb digestion, the solution being prepared so that each dose contains $\frac{1}{2}$ grain of iodine, $\frac{1}{4}$ grain of potassium iodide, and 15 grains of alcohol, this quantity to be given in a half-tumbler of water between meals.

The subcutaneous injections of iodoform are painful, and apparently there is little result from them. The deep injections of iodoform are followed by a rise in temperature in the first twelve hours, and in ulcerated and tuberculous syphilides of the skin there is a marked change. The injection is followed by a leucocytosis which corresponds with the quantity of iodoform injected and the severity of the reaction. There is little change in the ratio of the different kinds of leucocytes. About the second week after the injection the appetite is increased and there is a corresponding improvement in nutrition, the patient gaining in flesh and becoming stronger, even when the disease is not completely checked. In pulmonary cases there is a rise in temperature, according to the dose, which lasts from four to seven days; after it subsides the temperature is normal. In other than pulmonary cases the rise of temperature does not

last so long. A number of cases of joint-tuberculosis, tuberculous glands, tuberculosis of the skin and of the lungs and bowels, are reported. G. A. Brown (Montreal Medical Journal, April, 1906).

TUBERCULOUS INFECTION, PREDISPOSITION OF THE PULMONARY APICES TO.

Before the bacterial character of tuberculosis was established, no serious effort had been made to account for the peculiar liability which the apices of the lungs manifested towards the localization of this process. In accordance with the beliefs current at that time it was conveniently ascribed to a "predisposition," and as there was no way to disprove this assumption, the case rested. With the advance of pathological knowledge, the theory was proposed that a nontuberculous apical bronchitis was the forerunner of the more specific process, but it is now well known that these types of bronchitis are tuberculous, in most instances, from their inception. The development of bacteriology and the discovery of the tubercle bacillus led to investigations along entirely different lines, and as pulmonary tuberculosis was assumed to be due to inhalation of the specific germ, the reason for the more frequent apical localization was believed to reside in the fact that the bronchi in the upper lobes of the lung were bifurcated in such a manner that their invasion by the bacillus was particularly easy. Many theories were built up on this basis, but a critical inspection shows that they lack uniformity, for it is now well known that no very constant anatomical differences exist in this respect between the apices and other portions of the lung.

If the physiological characteristics are taken up, decided differences can

be made out, according to L. Hofbauer (Zeitschrift für klinische Medizin, Vol. 59, No. 1), and these exist normally as well as pathologically. In the first place, it was known that the function of the upper part of the lung differs from that of the lower. Although primarily concerned with the interchange of gaseous materials, not all portions of the organ are equally involved in the process, and the inferior segments of the lung are much more completely aerated than the superior, owing to the action of both the intercostal muscles and the diaphragm. In addition to this there is also a lack of uniformity in the intrathoracic pressure, as shown by actual experiment, and these two factors together exert a marked influence on the pulmonary circulation of both blood and lymph. According to Hofbauer, the intrathoracic pressure, which reaches its maximum in the caudal portions of the lungs, becomes very greatly lessened the nearer the cranial segments are approached, and in the apices there is very little change. The consequent diminished circulation in these parts interferes with the proper nourishment of the pulmonary parenchyma of this region, and reduces the amount of resistance, as compared with that in other portions of the lung.

It will be seen that this theory fits very well with any idea as to the manner of infection by the tubercle bacillus which one may be inclined to adopt, whether this be through the medium of the blood, the lymph, or the air; and, although purely theoretical, it seems confirmed curiously enough by the autopsy findings in a case recently recently reported by Birch-Hirschfeld. A woman contracted a pulmonary tuberculosis during the early part of her pregnancy, and died at term as the re-

sult of an anthrax infection. The lower lobes of the lung were the site of an area of recent cheesy degeneration similar to what is ordinarily found in the upper portions of the organ, and the reason why the former was invaded may be traced to the insufficient aëration, with its accompanying effect on the circulation of the part, due to the upward pressure of the diaphragm from the enlarged uterus. In other words, there was reproduced in the lower an analogous condition to that ordinarily found in the upper lobes, and consequently a *locus minoris resistentiæ*. Editorial (Medical Record, July 14, 1906).

TYPHOID FEVER IN CHILDREN, FÆCAL IMPACTION IN.

Fæcal impaction is sometimes the cause of serious abdominal symptoms in children convalescing from typhoid fever. When constipation persists throughout the active and convalescent stages, enemas are not sufficient, as they simply unload the lower bowel, often leaving the rest of the intestine untouched; in addition, occasional laxatives by the mouth should also be employed. An exclusive milk diet is not advisable when constipation persists; besides beef juices and broths, the milk should be mixed with cereals or preparations of malt. In children, leucocytosis is of little significance in real or apparent instances of serious abdominal trouble, as it may be quite marked from slight causes, and where no suppuration or active inflammation is present. A frequent liquid diarrhoea in a person habitually constipated, or following typhoid fever, should always excite suspicion of fæcal impaction. D. J. M. Miller (Archives of Pediatrics, June, 1906).

TYPHOID FEVER, OCCULT HÆMORRHAGES IN.

Occult hæmorrhages may be detected by the guaiac and aloin tests in about 25 per cent. of all cases of typhoid fever. The application of these tests is of little value as a means of foretelling gross hæmorrhages. It is of very little value in diagnosis, owing to the inconstancy and comparatively late appearance of positive reactions. Wilder Tileston (Boston Medical and Surgical Journal, July 12, 1906).

UTERINE DEVIATIONS, CLINICAL SIGNIFICANCE OF.

As the result of the study of 3000 recorded cases, the writer concludes that to be in a normal position the uterus must be mobile; and, provided that the uterus is mobile and unaffected by metritis, and also that the pelvis is in a normal condition, the position of the uterus, whatever it may be, produces no morbid symptoms. The deviations of the uterus are pathological, and may perhaps be correctly called displacements, only when the organ is fixed in a permanent way, or when its mobility is limited. When a backward deviation has been discovered, the existing complications must be sought for, such as metritis, perimetritis, inflammation, and consequent adhesions, or affections of the ovaries or tubes.

The diagnosis of the position of the uterus cannot be determined by the symptoms. Menorrhagia, dorsal pains, chronic constipation, and pains in the pelvis are not by any means classical symptoms of retro-deviation of the uterus, for these symptoms are met with in a large percentage of the cases of anterior deviations, and are due to the complications, without regard to the position of the uterus. Amenorrhœa,

dysmenorrhœa, sterility and vesical irritation are not, as usually taught, classical symptoms of antelexion; amenorrhœa, dysmenorrhœa, and sterility are results either of metritis or of adnexal inflammation, associated with the antelexion; vesical inflammation is due to inflammation of the bladder itself; consequent upon general congestion of the pelvis. In many cases of dysmenorrhœa, the condition of the nervous system of the patient must be taken into account, and it will then be found that the flexion is merely a coincidence. Gynæcologists must extend their observations beyond the pelvis to arrive at the true etiology of many affections, of which the most pronounced symptoms may be manifested in the pelvis.

The principal factor in the fixation of the uterus lies in peritoneal adhesions about the genitalia. The uterus, however, may also be fixed, as regards the relative position of the corpus to the os tinæ, by inflammation of its own tissues, that is to say, by metritis. The reasonable course to adopt, when the uterus is fixed in a pathological position, is to treat the complications which are the real cause of the symptoms, and to liberate the uterus and restore it to its original condition of anatomical and physiological mobility. Fixation of the uterus by means of surgical intervention merely substitutes one pathological condition for another. Lucy Waite (Fifteenth International Congress of Medicine at Lisbon; British Gynæcological Journal, May, 1906).

VERMIFORM APPENDIX, PRIMARY MALIGNANT DISEASES OF THE.

From an analysis of 63 cases of malignant disease of the appendix in literature, the author concludes that the dis-

ease is one which renders an accurate diagnosis impossible; every case in which the symptoms drew attention to this region exactly imitated appendicitis in some form. Most of the older reputed examples fail to withstand investigation, but as 80.9 per cent. of the 42 genuine examples have been reported since 1900 the disease cannot be quite so rare as has been thought. The microscopic size of the growth in some cases makes it probable that many such cases have been overlooked.

Pathologically, several varieties of carcinoma have been reported, and also sarcoma and endothelioma. The growth is usually, however, a spheroidal-celled carcinoma, which is peculiar in the early age incidence, the slight malignancy, and the resemblance to endothelioma. Colloid change is not common, as has been hitherto supposed. The presence of concretions is mentioned only in 3 cases out of the 42. The disease is not prone to affect one sex more than the other. Inflammatory changes, either chronic or acute, very frequently accompany the growth.

The immediate prognosis and the prospect of freedom from subsequent recurrence after operation are very good, particularly in the spheroidal carcinoma. H. D. Rolston and Lawrence Jones (*American Journal Medical Sciences*, June, 1906).

VOMITING OF PREGNANCY.

In all cases of moderate hyperemesis gravidarum it is usually possible, by adequate medical treatment, to carry the patient to full term, thus conserving the life of the child. When inordinate and persistent vomiting during pregnancy is due to coincident malposition of the uterus, by reposition of the organ, supplemented by appropriate

treatment, favorable results may be frequently attained.

In those instances in which hyperemesis persists despite intelligent medical and other treatment, in which rapid emaciation, failing strength, and elevation of the temperature are prominent factors, and in which the life of the woman is distinctly threatened thereby, the unborn child should be sacrificed by prompt induction of abortion, thus preserving the life of the mother.

When inflammatory disease about the uterus coexists with pregnancy, and hyperemesis becomes manifest, it is distinctly unwise to temporize, for there

is infinitely less danger to the woman if gestation be promptly terminated artificially; in any event, under such circumstances the chances are decidedly against the probability that pregnancy would continue uninterrupted to full term.

In all cases in which the decision has been reached, after due deliberation, that induction of abortion is the wisest course to be pursued, the operation should not be too long delayed, lest by so temporizing both mother and child be permitted to perish. Louis Frank and Q. W. Hunter (*Therapeutic Gazette*, June 15, 1906).

AMERICAN MEDICAL EDITORS' ASSOCIATION.

The thirty-seventh annual meeting of the society was held at Boston on June 4th under the presidency of Henry Waldo Coe, M.D., of Portland, Ore. In its many years of existence this was the most satisfactory session ever held, not only in point of attendance, but the character of papers presented as well as the many applications received for membership. This association now numbers over one hundred and forty-five members, representing ninety-two of the leading medical journals in America.

The following programme was presented and the papers were enthusiastically discussed: President's Address, Henry Waldo Coe, M.D.; The Repeater in Medical Literature, Frank P. Foster, M.D.; The Business of a Medical Editor, Harold N. Moyer, M.D.; Proprietary Advertising, W. C. Abbott, M.D.; Some Thoughts in Connection with the Editing of Original Articles, and on Medical Book Reviews, Walter M. Brickner, M.D.; The Profession of Medical Editorship, James Evelyn Pilcher, M.D.; Independent Journalism a Necessity for the Profession, Kenneth W. Mellican, M.D., M.R.C.S.; Independent Medical Journalism, J. J. Taylor, M.D.; The Official State Journals vs. the Private Medical Journal, William J. Robinson, M.D.; Original Papers and Abstracts as Seen in Medical Journals, T. D. Crothers, M.D.; Proper and Improper Medical Advertisements, John Punton, M.D.; Psychiatry and Neurology in General Medical Journals, C. H. Hughes, M.D.; The Scope of the Official State Medical Journal, Charles Wood Fassett, M.D.

A new by-law and constitution was adopted so as to meet existing conditions.

The officers elected for 1906-07 were as follows: President, James Evelyn Pilcher, M.D., editor, *Journal of the Military Surgeons of the United States*; First Vice-President, Frank P. Foster, M.D., editor, *New York Medical Journal*; Second Vice-President, Charles F. Taylor, M.D., editor, *Medical World*; Secretary and Treasurer, Joseph MacDonald, Jr., M.D., managing editor, *American Journal of Surgery*, New York.

The annual banquet held at the University Club was as usual the social event of the week. About seventy-five covers were laid, and among the speakers were Surgeon General Walter Wyman, Major Jefferson Randolph Kean, George B. Shattuck, M.D., Henry O. Marcy, M.D., Frank P. Foster, M.D., Andrew C. Smith, M.D., Carlos MacDonald, M.D., Britton D. Evans, M.D., W. C. Abbott, M.D., Charles Green Cumston, M.D. The President, Dr. Coe, presided as toastmaster.

Books and Monographs Received.

The Editor begs to acknowledge, with thanks, the receipt of the following books and monographs:

"Consumption, its Relation to Mankind and His Civilization, its Prevention and Cure." By John Bessner Huber, A.M., M.D. J. B. Lippincott Co., Philadelphia and London, 1906.—
 "A Compend of Operative Gynecology. Based on Lectures in the Course of Operative Gynecology on the Cadaver at the New York Post-Graduate Medical School and Hospital." Delivered by William Seaman Bainbridge, M.D. Compiled, With Additional Notes, in collaboration with Harold D. Meeker, M.D. The Grafton Press, New York, 1906.—
 "Second Annual Report of the Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis." February 1, 1904, to February 1, 1905. 1906.—
 "Year-Book of the United States Department of Agriculture. 1905." Washington, D. C., 1906.—
 "Bacteriological Types of Acute Conjunctivitis." By Alexander Duane, M.D., and T. W. Hastings, M.D., New York, 1906.—
 "A Comparison of the Pharmacologic Activity of the Fluid Extract of Squill Prepared According to the United States Pharmacopœia, 1890 and 1900." By E. M. Houghton, Ph.C., M.D., Detroit, Michigan. 1906.—
 "A Simple Device for Irrigation of the Bladder." By Hugo Ehrenfest, M.D., St. Louis, Mo. 1906.—
 "Abnormal Retention of the Dead Ovum." By Hugo Ehrenfest, M.D., St. Louis, Mo. 1906.—
 "Experiment Station Work, XXXV." U. S. Dept. of Agriculture, Washington, D. C., 1906.—
 "The Cold Storage of Cheese." By Clarence B. Lane, B. S. U. S. Dept. of Agriculture, Washington, D. C., 1906.—
 "Birds that Eat the Cotton Boll Weevil. A Report of Progress." By Arthur H. Howell. U. S. Dept. of Agriculture, Washington, D. C., 1906.

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Sajous's Analytical Cyclopædia of Practical Medicine.

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Editorials.

DEPARTMENT IN CHARGE OF

J. MADISON TAYLOR, A.M., M.D.

ON THE BLOOD-GLANDS AS PATHOGENIC FACTORS IN THE PRODUCTION OF DIABETES AND OBESITY.

II.

ON THE RELATION OF THE BLOOD-GLANDS TO DIABETES.

As has been shown by the researches of Pineles,⁴⁸ and of myself,⁴⁹ the various blood-glands stand in close relation to one another. Changes in one of them are, as a rule, followed by changes in others. Thus in acromegaly, in addi-

tion to the very frequent alterations in the hypophysis, there exist also changes in the sexual glands (impotence and amenorrhœa caused by pathologic changes of the sexual glands), of the thymus (abnormal persistence), adrenals (frequent alterations found), pancreas (diabetes frequent).

The thyroid, according to my researches, is altered almost constantly, more frequently, I should think, than the hypophysis. These alterations are, in my opinion, primary and lead in a secondary manner to those of the hypophysis, in the same way as in the experiments of Gley,⁵⁰ Hofmeister,⁵¹ Rogowitch,⁵² and Stedia,⁵³ on animals.

As I have shown previously,⁵⁴ diabetes only occurs in those cases of acromegaly in which there also exist symptoms of hyperthyroidea (Graves's disease), whereas it is always wanting in cases of acromegaly accompanied with myxœdema.

In those cases of acromegaly with diabetes where the thyroid and the pancreas have been examined these organs have been found in an altered condition; the pancreas has been found degenerated, and the thyroid hypertrophied, with much colloid, as in the cases of Pineles,⁵⁵ Hansemann,⁵⁶ Ferraud,⁵⁷ Harlow Brooks,⁵⁸ Dallemagne,⁵⁹ etc.

In diabetes, besides the alterations in the pancreas, there exist symptoms which indicate changes in the sexual glands (impotence and amenorrhœa). If certain blood-glands are found degenerated in diabetes, on the other hand, there are other blood-glands the extracts of which may produce glycosuria or diabetes. Thus it has been found by Blum,⁶⁰ Zuelzer,⁶¹ Metzger,⁶² Herter and Wakemann,⁶³ that the injection of adrenal extract may produce considerable glycosuria in animals. The extract of another blood-gland, moreover, viz. the thyroid, may produce, even in a higher degree than adrenal extract, glycosuria and even its higher degree—true diabetes. According to Naunyn,⁶⁴ Van Noorden,⁶⁵ Strauss,⁶⁶ and Goldschmidt, diabetes only follows in such cases where there is an inherited predisposition. It is an interesting fact that by giving thyroid extract all the symptoms of true diabetes can be produced.

I have under observation a case of acromegaly in which the urine was found free of sugar in September, 1895, and in which much sugar was found towards the end of October. This patient was given thyroid tablets in the treatment of his acromegaly in October; this treatment was commenced more than ten years ago, and for eight years this patient has been excreting acetic acid and acetone in quantity. He had no glycosuria before the commencement of treatment with thyroid. The long duration of his severe diabetes, joined with his acromegaly, makes the case very interesting. Glycosuria is frequent in Graves's disease, but generally in cases of not long duration. Alimentary glycosuria seems to be more frequent. According to Van Noorden⁶⁷ there exists an unusual tendency to

alimentary glycosuria in Graves's disease. In this disease also diabetes is not very rare. In cases of Graves's disease which are of long duration and are passing into or are combined with myxœdema, glycosuria is rare. A very instructive case of this has been published by Schrotter,⁶⁸ where there was no glycosuria after administration of 200 grains of grape-sugar. In such conditions, as also in myxœdema, diabetes is extremely rare. J. Hirschl,⁶⁹ of Vienna, has found glycosuria in six cases of Graves's disease, but in none of four cases of myxœdema could he produce alimentary glycosuria. Knopfmacher,⁷⁰ also, could not produce alimentary glycosuria in myxœdema even by means of very large doses of grape-sugar.

In the cases recorded by Ewald,⁷¹ and Beclère,⁷² (myxœdema with diabetes) diabetes was produced by treatment with large doses of thyroid extract. It is interesting that diabetes or glycosuria is common in all conditions of hyperthyroïdea, and equally rare in the opposite condition of athyroïdea. Thus glycosuria or diabetes is frequent in infectious diseases (the result of action on the thyroid, as mentioned in the foregoing chapter), after toxic agencies (acting on the thyroid according to Garnier), after mental emotions (well-known effect on the thyroid, demonstrated also by the frequency of Graves's disease after such). The increase of glycosuria during menstruation, its appearance during lactation (lactosuria), and occasionally during pregnancy, is related to the increased thyroid function accompanying these conditions. Manchot⁷³ has observed glycosuria during syphilitic eruptions in women; this may be explained by the statement of Engel Reimers,⁷⁴ who noticed swelling of the thyroid in women with this condition. Glycosuria has been observed during biliary colic by Gans,⁷⁵ Finkler,⁷⁶ Exner,⁷⁷ and may be explained by the fact, demonstrated by Hurthle,⁷⁸ that stagnation of the bile causes an increased secretion of thyroid colloid. It is an interesting fact, found by Moussu,⁷⁹ that after thyroïdectomy in a goat the milk gets poor in sugar but rich in fat. If glycosuria or diabetes is frequent in hyperthyroïdea, on the other hand, they are rare in all conditions of athyroïdea or hypothyroïdea. This is true in myxœdema, as above mentioned, and in cretinism, for Scholz⁸⁰ was unable to produce glycosuria or the symptoms of hyperthyroïdea in one hundred cretinous children.

Degenerative changes are met with in the thyroid in chronic tuberculosis (Roger and Garnier [^{80a}]) and myself,⁸¹ and also in cancer (myself). This fact may explain why diabetes is so rare in either of these diseases, which may follow diabetes, but seldom precede it. The diminished excretion of sugar at the close of diabetes, before death, or in opium-poisoning depends upon the diminution of thyroid secretion. Over-activity of any gland may be followed by its exhaustion. Thus hyperthyroïdea (Graves's disease) may be followed by athyroïdea (myxœdema). This may also happen after the over-action of the thyroid in diabetes.

Hence, if the symptoms of diabetes in general resemble those of Graves's disease, in the advanced stages they may approximate to those of myxœdema—dryness of skin, coldness of extremities, loss of hair and teeth, apathy, loss of memory for recent events, red patches on the cheek, torpor, headache, etc.

When severe diabetes is so far advanced that such a condition appears (though it need not do so in all cases), the sugar in the urine might also diminish, but not the acetic acid and acetone, which might even increase. Under such circumstances tuberculosis may easily arise, and it is interesting that in such cases there is then a further diminution of sugar; there are cases of diabetes where the sugar may disappear after the onset of tuberculosis. In the early stages of myxœdema there is often obesity, but in the advanced there is cachexia with emaciation, as in animals after thyroidectomy. If one blood-gland is changed, others will also show alterations. During life I have often observed in cases of light diabetes a slight or greater enlargement of the thyroid, and in a few cases the appearance of a goitre. According to George Murray²² the thyroid is bigger in women than in men; my own observations confirm this. The larger size may be related to the functions of the sexual glands. It is not easy to examine the thyroid during life; what is apparently a small thyroid may turn out to be a large one. In Graves's disease the thyroid is not always obviously enlarged. On the other hand, cretins may have a very large thyroid, but the latter consists not infrequently of connective tissue without colloid substance; this shows that the large size of the thyroid is no proof of its over-action.

On examining the thyroid of three dogs in the laboratory of Professor Minkowsky, at Cologne, after the extirpation of the pancreas, I found in each a considerable enlargement of the vesicles and much colloid. In one case, that of a male puppy of two months, these alterations were very considerable, as told by comparing the thyroid with that of another male puppy of the same litter and age. I may especially draw attention to the fact that the latter animal was chloroformed; and that, as a rule, an enlargement of the thyroid is more or less distinctly observable after chloroform narcosis. The increase of colloid in the latter case, however, is not by any means so great as in the former, in which the thyroid was removed after death.

Another dog in the laboratory of Professor v. Noorden, of Frankfort, which was kept fasting six days after extirpation of the pancreas, also showed similar alteration in the thyroid. The thyroid of these dogs shows a similar picture to that of the fowls of Chalmers Watson²³ after meat-feeding. If the results are not similar to those in the rat, it must be borne in mind that the thyroids of the dogs were taken away a few days after the extirpation of the pancreas. But as over-function will be followed by exhaustion, it is not unlikely that if these dogs

were to live very long the thyroid would show similar changes to that of the rats in Chalmers Watson's experiments. We must also remember that rats are carnivorous, and that the thyroid, as is the rule in carnivora, would produce a larger amount of colloid. In the early stages of Graves's disease I have seen (in the laboratory of Professor Langerhans of Berne) similar changes in the thyroid to those of the dogs in my experiments and the fowls in Chalmers Watson's. In the later stages of Graves's disease the thyroid would naturally look different and no longer produce normal colloid. The same thing may take place also in diabetes. If Graves's disease is a condition of hyperthyroidea, there would be an entrance of colloid in large quantity into the system. The colloid is the real secretion; according to Oswald⁸⁴ the principal element of the thyroid, the iodine, depends entirely upon the amount of colloid in the gland. The absence of colloid in myxœdema I view as the result of an exhaustion following hypersecretion. Hence myxœdema may follow infective diseases, mental emotions, grief, and oft-repeated pregnancy, since in all of these conditions there is hypersecretion of colloid.

In Graves's disease the increased secretion constitutes a toxic agent, and produces results like those arising from the use of large doses of thyroid tablets. There results, as shown by Magnus-Levy,⁸⁵ a decomposition of albuminous substances: the carbohydrate radicle, the existence of which in the albuminous molecule has been demonstrated by Pavy,⁸⁶ is set free. If the pancreas is active, diabetes might not follow, or only slight glycosuria, according to the amount of the toxic substance absorbed; but if the pancreas is degenerated, or has been removed, the sugar that has been set free will appear in the urine.

These facts show that certain relations exist between the pancreas and thyroid, which seem to be of an antagonistic nature, since extirpation of the pancreas is followed by alterations in the thyroid like hypertrophy, with abundant production of colloid. On the other hand, in one case (dog) of thyroidectomy I have seen an extraordinary number of Langerhan's islands in the pancreas, some of them very small, as though a new formation were in progress. I may add to this the experiment of Quinquaud,⁸⁷ and the later ones of Kishe,⁸⁸ who found the pancreas hyperæmic after thyroidectomy.

In the wards of Professor v. Noorden I have seen a case of Graves's disease in which after a few years diabetes appeared. After death calculi were found in the pancreatic duct and the gland itself was degenerated; here hypertrophy of the thyroid and degeneration of the pancreas coexisted. In the hospital at Hanover I lately saw a woman who presented typical symptoms of Graves's disease, and who, as Dr. Paulsen told me, became subject to severe colics, which he thought to be pancreatic; the urine contained 3 per cent. sugar.

I regard it as of importance that in the three diabetic dogs whose thyroids

were removed, without the parathyroids, the sugar disappeared from the urine on the second day following the thyroidectomy. One of these dogs lived for three days free of sugar in the urine; even after about 200 grms. of milk had been administered the urine gave only a feeble reduction. That none of the diabetic dogs lived longer than four days after the thyroidectomy must be attributed to the loss of two such important organs. I am not sure, however, whether this disappearance of the sugar was not merely terminal, seeing that in the cadaver of diabetics sugar is often found even when it has diminished before death. In dogs, also, after extirpation of the pancreas, in exceptional cases sugar may not be found. These exceptions, however, can hardly affect the regularity of the sequence in my experiments.

Moreover, in those cases when before death sugar entirely disappears the thyroid may also cease secreting. I conclude that there are two important pathogenic factors in diabetes—(1) degeneration of the pancreas: (2) hyperactivity of the thyroid. If the pancreas alone is degenerated and there is no hyperactivity of the thyroid, the diabetes will be a light one. This is the case of the diabetes of old persons, which is in most cases due to arteriosclerosis of the pancreas. As Sir Victor Horsley first pointed out, the thyroid in old age shows degenerative alterations, although this is not the case in every person beyond a certain age.

If in addition to the pancreatic degeneration the thyroid is over-active, the diabetes will be severe. This is the case in young persons whose thyroid is in good working order.

When there exists only hyperactivity of the thyroid, as in Graves's disease, or often mental emotions, there may be only glycosuria, spontaneous or alimentary, but if this is added to a degeneration of the pancreas on an inherited basis or on one acquired by syphilis, arteriosclerosis, etc., diabetes will follow.

It should be mentioned that in cases of Graves's disease with diabetes, when these glands have been examined, the pancreas has been found degenerated and the thyroid hypertrophic, as in the case of Morris Manges.⁶⁹

Similar facts have been found to hold in acromegaly. In regard to the relationship of glycosuria to diabetes it must be borne in mind that there exists no sharp demarcation. Diabetes often begins as simple alimentary glycosuria.

Lastly, I may mention that in a series of diabetic cases⁷⁰ I have employed the antithyroidin serum of Moebius, as also the rodagen of Burkhard Blumenthal made of the milk of goats after thyroidectomy. The nervous symptoms have been ameliorated, especially the insomnia, and the glycosuria has diminished or has disappeared. As the Carlsbad water, however, has been employed simultaneously, the cause of the result is not clear. Nevertheless I think the antithyroidin serum is capable of diminishing glycosuria, but I should not advocate its use in advanced

cases of severe diabetes accompanied with cachexia, this condition being near to a myxoedematous one.

Chalmers Watson has recently added experimental proofs to my clinical observations⁹⁰ upon the increased activity of the thyroid following a meat diet.

Diabetes, as I have pointed out, will more readily occur in persons who take much meat, especially if they take large quantities of carbohydrates. Hence after extirpation of the pancreas in birds, diabetes will appear only in those which are carnivorous, as in birds of prey, and not in ducks, pigeons, or geese.

Animals may acquire diabetes spontaneously, especially those taking much albuminous food, like the fox-terrier of Naunyn,⁹¹ which lived on rice and meat, and the monkey of Beranger Férand.⁹² Monkeys, in Europe, usually die of tuberculosis. This I attribute in part to their vegetarian habits. Among the monkeys of Signor Volpi, at the Royal Italian Circus of London, those which were kept on meat or other albuminous food did not succumb to tuberculosis. Hence if much proteid predisposes to diabetes or gout it is a powerful preventive against tuberculosis. I know of a case, also, of spontaneous diabetes in a large St. Bernard dog, which, since a puppy, has been brought up upon meat with a daily pot of cream and much sugar; the symptoms were polyuria, thirst, and loss of weight. According to Bose⁹³ diabetes is rare amongst the poorer Indians, who live on rice only, but frequent among the rich, who live on rice and meat.

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EXTRA-UTERINE PREGNANCY.*

WITH REPORT OF FOURTEEN CASES AND NO DEATH.

I desire to report briefly all the cases of ectopic pregnancy that have come under my care, and to make comments on certain phases of the subject.

I use the term "extra-uterine" in the title for the reason that although thirteen of the cases herein reported were tubal, one was probably ovarian, while all were extra-uterine.

I find, on referring to my records, that I have operated on fourteen cases. Six of them have been reported in a former paper, and therefore will not be mentioned except in barest outline. Seven of the cases occurred within the period embraced by March 6, 1905, and April 16, 1906.

* Read before the 53d Annual Meeting of the North Carolina Medical Association at Charlotte, May 30, 1906.

All fourteen cases were treated by either abdominal or vaginal section, and all recovered. It is rather remarkable what good health these women enjoy after recovering from their malady and operation.

The first two cases occurred in my earlier surgical work, before I began to systematically keep record of my cases; and beyond the fact that one was ruptured and the other unruptured, and both recovered, I have no data.

CASE I.—*Tubal pregnancy, rupture, vaginal section, recovery.*

CASE II.—*Tubal pregnancy, not ruptured, abdominal section, recovery.*

CASE III.—*Tubal pregnancy, rupture at ninth week, abdominal section, recovery.*

This patient had been sterile for several years. She ruptured the tube, at the end of the ninth week of pregnancy, by sneezing while sitting at the table. The rupture occurred on the anterior surface of the distended tube. There was a well-formed placenta in the tube.

CASE IV.—*Ovarian pregnancy, rupture probably due to palpation, abdominal section, recovery.*

The only interesting features about this case were that the patient was the wife of a physician; had not heretofore been pregnant; had, when seen, symptoms of an eight-weeks' ectopic gestation, and when the abdomen was opened the tubes were found to be normal, but the right ovary was the site of a newly ruptured cyst containing blood-clots.

CASE V.—*Ruptured tubal pregnancy, pelvic abscess, vaginal section, recovery.*

This case is noteworthy because of the extreme suffering and emaciation, and the recovery of the patient following an operation done three months after the rupture had occurred.

CASE VI.—*Tubal pregnancy, attempted abortion, rupture, septic peritonitis, vaginal section, recovery.*

The interesting points in this case were the attempted abortion by the patient by inserting pencil into her uterus, the intense septic infection following the tubal rupture, and the enormous quantity of blood-clots and placental tissue removed with the tube at the operation.

CASE VII.—*Sterile eleven years, tubal pregnancy, rupture at the eighth week, abdominal section, recovery.*

Mrs. B., residence High Point, N. C., æt. about 35, white, married, the mother of several children, the youngest of which was eleven years old, had missed two periods when she was seized with an acute pain in the left side of pelvis. Her physician, Dr. W. J. Vestal, was called and prescribed for the pains. The next day a scanty uterine flow appeared. The pains and flow continued, requiring frequent doses of morphine. After ten days Dr. D. A. Stanton was called in consultation, and diagnosed ruptured tubal pregnancy. By this time, a large, tender

mass choked the pelvis and distended the lower abdomen, especially on the left side. The temperature was slightly elevated and the pulse 90. The writer was called, and, concurring in the diagnosis, opened the abdomen as soon as preparations could be made. The operation was done at the patient's residence. The mass consisted principally of blood-clots hiding a ruptured left tube, which, in turn, contained a part of the placenta. The striking feature of the case was the absence of inflammatory changes. The intestines seemed to be simply stuck to the coagulated blood, which lifted them up *en masse*.

The tube was quickly enucleated, the peritoneum cleansed, and the incision closed without drainage. The convalescence was very prompt and satisfactory.

CASE VIII.—*Tubal pregnancy, rupture at the seventh week, operation two hours post trauma, recovery.*

Mrs. J. C. S., white, æt. 26, married seven years, was never pregnant and periods have always been regular. Her family history is good, except one brother died of tuberculosis. At 18 the patient had tuberculosis of the spine and was sick three years, resulting in a marked degree of kyphosis. For a year prior to her present trouble she wore a plaster-of-paris jacket with most noticeable benefit.

Her last period appeared on January 16th, 1905. March 6th she was taken with rather sharp, cutting pains in the left side of the pelvis. The writer saw her at twelve o'clock, and, hearing of the absence of the periods for seven weeks, suspected a tubal pregnancy with threatened rupture, and so advised the patient. No vaginal examination was made, because the patient did not seem to be very ill and she was so fat that bimanual palpation could not be satisfactorily done. At this time her pulse was 80 and her temperature 98.6°. Deod. tr. opii was prescribed and the patient instructed to remain quietly in bed, and to notify the writer on the least exacerbation of her symptoms. At 5 P. M. the same day a hurry call was sent to see this patient. When I reached her it was quickly evident that she was greatly shocked. In reply to a question she said, "I am almost dead." The pulse was barely perceptible, the temperature was 97°, and the extremities cold.

Fortunately the patient lived near the car line. She was gently lifted on to a cot, which, in turn, was placed on the platform of the street car and rapidly taken to the hospital. Without removing the patient from the cot her plaster jacket was quickly cut away and ether administered. The anæsthetic revived the pulse a little and the patient was cautiously placed on the operating table. "Rapidity" was the slogan. By seven o'clock, or two hours after the evident time of rupture, the abdomen was opened and the bleeding tubal vessels clamped. The abdomen contained a large quantity of fresh blood-clots. The left tube was ruptured from a pregnancy near its fimbriated end. The bleeding mass was tied

and cut away, the peritoneum carefully cleansed and left full of salt solution, and the abdomen cleansed without drainage. The recovery was prompt and uneventful. The patient has become very stout and is now eight months gone with an intra-uterine pregnancy.

CASE IX.—Tubal pregnancy, rupture about the tenth week, profound shock, operation, recovery.

Mrs. F. R., white, æt. 31, has been married five years. She was never pregnant, periods have always been regular and normal, and she has never been seriously ill.

On March 30th, 1905, her period appeared as usual, but she was nauseated and suffered with severe headache. April 23d the period appeared again on time and lasted the usual three days. From this time on the patient felt that there was "something wrong" in the pelvis. She consulted a very capable physician, who said her uterus needed curetting. After this examination the local conditions were rather worse, but she had no uterine flow.

May 8th, after bidding "good evening" to a friend and locking the door, she was suddenly seized with an agonizing abdominal pain that continued without remission. The writer saw the patient in about half an hour afterward. She was profoundly shocked, almost unconscious, pulse very feeble and frequent, skin blanched, temperature 97°, and the patient writhing in pain. It was three days before the patient's temperature reached normal. May 16th she was taken to the Greensboro Hospital and the abdomen opened. The right tube was found to have contained a pregnancy and had ruptured, pouring an immense quantity of blood and detritus into the abdominal cavity. It was deemed best to drain this case. The convalescence was rapid and the ultimate recovery perfect.

CASE X.—Tubal pregnancy, rupture, appendicitis and peritonitis complicating, operation eight months after rupture, recovery.

Mrs. R. L. L., æt. 22, married February 8, 1904. Her periods were always irregular. I quote the patient's words: "The period in May appeared on the 10th, and in June on the 15th. I occasionally had nausea, but no other symptoms of pregnancy. My August period appeared on the 26th, and from that time until September 14th I remained unwell, with no more pain than usual at my periods. I was then taken suddenly with violent pains in the bowels and an increase in the uterine flow. Nothing eased the pain except morphine. I moved from Statesville to Raleigh, September 18th, and on the 19th my womb was curetted. After this the pain ceased, but the flow kept up, very dark in color. On the tenth day after the curetting I was again taken with violent pains in my stomach and bowels, and was very ill with peritonitis. I sat up the 1st of November, continued to improve, and was soon out again. I had my periods about every six weeks, yet a very

slight flow between periods, and occasionally pain and nausea. This continued up to the time you saw me in Greensboro."

When first I saw this patient, April 15th, she was very ill with peritonitis. She was at this time living in Greensboro and under the care of Dr. Charles Roberson. Together we continued to treat her until May 17th, when she was removed to the Greensboro Hospital and operated on. On opening the abdomen marked evidences of a former widespread peritonitis were seen, and the pelvis was choked with a mass of adherent intestines and omentum surrounding a ruptured right tubal pregnancy and the disorganized right ovary, and incorporated in the mass was the distal perforated end of the appendix. The clots and detritus looked old and had probably been there since September 11th, or nearly eight months. The left tube and ovary were the seat of a destructive inflammation. The damaged organs were removed, a careful toilet made, and drainage established. The convalescence was very satisfactory and as rapid as the nature of the case permitted.

CASE XI.—*Tubal pregnancy, rupture at ninth week, vaginal section, recovery.*

L. L., colored, æt. 18, married two years, was seen August 15, 1905, with Dr. J. E. Dellinger, of our town. She had never been pregnant, and her periods were normal until May. She missed her periods in June and July. July 31st she was suddenly seized with severe pains in her pelvis. When seen by the writer there was a tender mass, filling the pelvis and projecting well into the abdomen. The temperature was 102° and the pulse 120. Under the circumstances it was deemed best to make a vaginal incision, which was done at the patient's residence. Many blood-clots and much detritus were removed and drainage was established. This patient improved, but not in the ideal way. The temperature, while lower, continued above normal. After about three weeks a bulging was noticed in the right inguinal region. Under the cocaine locally the mass was incised, after which the patient made a rapid and perfect recovery.

CASE XII.—*Ten weeks' tubal pregnancy, operation, recovery.*

Mrs. X., white, æt. 30, married seven years, child six years old, periods always regular. From her December period she did not get well, but continued to flow scantily, and at times profusely. She occasionally passed large lumps of fleshy-looking masses and clots. She had no idea she was pregnant, and went on a trip of 65 miles to see her people. While there she became worse and had a physician to see her. On returning home, my associate, Dr. J. H. Boyles, saw her, but made no vaginal examination. A few days later I saw her and suggested an examination. On February 1st she came to my office, and I discovered a mass in the left side of the pelvis which extended in front of the fundus. She was advised to have an immediate operation. February 3d she entered the Greensboro

Hospital. After gently dilating the cervix and assuring myself that the uterus was empty, I opened the abdomen. The left tube contained a pregnancy that was involved in a mass of adhesions with the ovary, uterus, intestines, omentum, and bladder. Extending out in front of the fundus and above the bladder, apparently a part of the tubal mass, was a cystic collection of straw-colored fluid. This cyst ruptured after it had been carefully peeled off from the bladder. The adhesions were freed, the tube and ovary tied off *en masse*, and the abdomen closed without drainage. This patient was walking on the tenth day, and went home on the fourteenth day following her operation.

CASE XIII.—*Tubal pregnancy, rupture at the fourth week, operation seven weeks after rupture, recovery.*

Miss X., was regular until January 16th, when her periods came five days late. She suffered no special inconvenience until February 8th, when she was taken with violent pelvic pains. She was seen by Dr. W. J. Meadows, who advised operation, but this was declined and the patient gradually became somewhat better. March 5th she was taken as before. Dr. G. W. Kernodle saw the patient, and a few days later I saw her in consultation. The pelvis and left side of abdomen were filled with a tender mass. The patient still declined operation. March 19th she came to the Greensboro Hospital. The mass by this time had extended well into the abdomen and was larger on the right side than the left. March 20th an abdominal section was done. The omentum, intestines, and uterus were adherent to a double mass in the pelvis. A right tubal pregnancy was found. The left tube contained a pint and a half of straw-colored fluid. The abdomen was closed without drainage and the patient made a good recovery.

CASE XIV.—*Tubal pregnancy, rupture, abdominal section, recovery.*

Mrs. L., æt. 28, married ten years, and her periods are usually regular. She has had five early abortions. Her February period occurred on the 28th. March 28th she was taken with severe pains in the right side of the pelvis. Dr. W. J. Meadows was called and found the temperature sub-normal, there was considerable shock, and a moderate uterine flow began, which has continued ever since. The pains recurred daily—in fact, rarely ceased entirely. Dr. Meadows diagnosed ectopic pregnancy and advised operation. The patient entered the Greensboro Hospital and was operated on April 16th. The right tube, which was the site of the pregnancy, had a small rupture, through which the blood was slowly oozing. The pelvis was full of blood-clots. The left tube was the site of a hydrosalpinx the size of an orange. Many adhesions were present. The recovery was very prompt and perfect.

My experience with extra-uterine pregnancy has, of course, been limited, since fourteen cases is a small number, but it will probably justify a few comments. In

thinking over these cases the first thing that attracted my attention was the fact that as one's experience enlarges the more of these cases does he see. For instance, I began practicing medicine in 1881 and to give special attention to surgery about 1887; and up to one year ago I had recognized only seven cases of extra-uterine pregnancy, while within the last thirteen months I have encountered seven cases, operating on two of them on successive days.

The next item that struck me, and that very forcibly, was the fact that a woman may live a long time with a ruptured ectopic pregnancy in her abdomen. My records show the time of operation to vary from two hours to eight months after rupture has occurred. This is a startling fact, and offers a grain of comfort, showing what wonderful provision nature, which is only another name for an all-wise Creator, makes for the preservation of human life. But this immunity from immediate death should not mislead us, for these women, without exception, are desperately ill from the moment of rupture, and I believe that at least 95 per cent. of them must ultimately have died without operation; indeed, many immediate deaths have been recorded due directly to the hæmorrhage and shock.

The frequency of extra-uterine pregnancy and the suddenness with which an apparently well woman may be stricken down lead to the observation that any woman in whom we have cause to suspect the possibility of pregnancy, who is without warning overcome by great and inexplicable shock, should be examined for the presence of a ruptured ectopic pregnancy. In this way some sudden deaths may be explained or even prevented.

The fourth and most practical conclusion to be drawn from this study is that these cases, early or late, ruptured or unruptured, simple or complicated, are amenable to surgical treatment. True, all that are operated on do not recover, but a death following operation is the exception. Think for a moment that it has only been twenty-five years since Tait operated for the first time on a case of tubal pregnancy, and even for years thereafter the condition was considered a pathological rarity. How many women must have died from ruptured ectopic pregnancy in the six thousand years of the world's history!

Touching only one other phase of the subject will I ask your kind consideration. The etiology of this freak of pregnancy has been much discussed and little understood. Recently there has been brought forward a theory that perhaps helps to explain both the cause and sequel of ectopic gestation.

The biology that most of us were taught said that the impregnated ovum fell among the uterine follicles, which rapidly became hypertrophic and enveloped it in their arms. Peters has disproved this. He describes the earliest known human ovum, which was secured from a woman who suicided three days after miss-

ing her period. He shows clearly that the ovum is the active agent, and that it erodes or destroys the tissues of the mucosa, making for itself a cavity or bed, into which it sinks. Professor Minot, of the Harvard Medical School, has shown by experiments on embryos in the lower animals that certain of the chorionic cells have the property of destroying tissues, and it is believed the same is true of the human ovum. Minot says the ectodermic cells of the chorion become hypertrophic and are known by their large size. These cells he calls the trophoderms, and they possess the destructive power described by Peters. The production of a cavity in the uterine mucosa by the digestive properties of the trophoderms and the lodgment of the ovum in the mucosa is styled by embryologists "implantation." In other words, the ovum is the active agent in the process of implantation, and its activity depends largely on the destructive properties of the trophodermic cells of the chorion.

Now for the application. Suppose for any reason the ovum, which, as is well known, becomes impregnated normally in the tube, be detained for ever so short a while; the trophoderms quickly get in their work, and in the thin-walled tube erode a hole entirely through, or cause the ovum to become implanted so close to the surface as to easily cause rupture by blood-pressure.

Goffé, in discussing this matter, cites a case in point. At operation he found abundant blood in the pelvis and only a pin-hole opening in the tube, filled with a blood-clot. An examination of the interior of the tube after removal "gave no indication of the development of a placenta or chorionic cells. The ovum at a very early state must have eroded its way through the tube and the hæmorrhage must have been frequent if not continuous." Goffé also cites a similar case occurring in the hands of Paul Zweifel.

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VACCINATION AND ANTIVACCINATION.

It is a remarkable fact that despite one hundred years of incontrovertible testimony there should still exist persons who fail to recognize the inestimable benefits conferred by vaccination. It is still more strange that certain individuals should band together to actively oppose this beneficent measure. Fortunately, the antivaccinists comprise but a small proportion of the people, and their agitation might be ignored did it not frequently lead to unnecessary loss of life. It is a significant fact that antivaccination agitation is most pronounced during periods

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of absence of epidemic smallpox. When this disease prevails among the people, propagandists against this preventive measure are much less active.

It is a singular instance of the frailty of human judgment that a scientific truth that has for over a century satisfied the reason of medical men, and has been proven by practical experience to be true, should not be universally accepted. Were smallpox to prevail now as it did in the prevaccination days, opposition to this prophylactic measure would wholly or in large part disappear.

Admiral Berkeley, chairman of the committee of the House of Commons (in 1802) to investigate the petition of Jenner for a parliamentary grant, in an eloquent speech said: "The discovery of Dr. Jenner is unquestionably the greatest discovery ever made for the preservation of the human species. It has been proven that in this United Kingdom alone 45,000 persons die annually of smallpox. But throughout the world what is it? Not a second is struck by the hand of Time but a victim is sacrificed upon the altar of that most loathsome of all disorders, the smallpox."

At the present day smallpox occurs only at intervals in this country, and is regarded as a rare disease. In Germany, where antivaccination legislation is the most advanced of any country, it is almost unknown. No fair student of the subject can compare, without becoming convinced, the record of smallpox in Germany since 1874 (when compulsory vaccination and revaccination was enacted), with the records of this disease in Austria and other surrounding countries. If there was in existence no other statistical evidence of the efficacy of vaccination, the history of smallpox in Germany since 1874 would be sufficient testimony. After the law of 1874 went into effect the annual mortality in Prussia fell so that between 1875 and 1886 the average yearly mortality per 100,000 of population was 1.91. On the other hand, in Austria, where the lax vaccination and revaccination requirements remained unchanged, the mortality of smallpox during about the same period (1875-1884) increased, varying between 39.28 and 94.79. Since 1886 the mortality from smallpox in Germany has been gradually decreasing. In 1897 there were but five deaths from this disease in the entire German Empire with a population of 54,000,000.

It has been claimed by the opponents of vaccination that the decline in the prevalence of smallpox, dating from the beginning of the nineteenth century, has been due to improvement in sanitary conditions. Such influences, however, are totally inadequate to explain the strikingly progressive decline in the prevalence of and mortality from smallpox that followed the introduction of vaccination. Unlike typhoid fever and cholera, the occurrence of such diseases as measles, scarlet fever, whooping cough, and smallpox is influenced by personal infection rather than by any definite vices of sanitation. According to the Registrar General's report, during

the same period in England smallpox mortality has declined 72 per cent., the mortality from measles has fallen only 9 per cent., and the death-rate from whooping cough but a little more than 1 per cent.; the diminution in the mortality of scarlet fever has only become apparent within comparatively recent years. The reduction in the general death-rate of England has been only 9 per cent., compared, as stated before, with a reduction of mortality of 72 per cent. for smallpox.

We must not delude ourselves with the idea that smallpox as an epidemic scourge has lost its terrors, and that we must refer to statistics of a century ago to illustrate its dreadful ravages. At the present time, in countries where vaccination is neglected, smallpox still finds its thousands of victims. In the Russian Empire, including Asiatic Russia, there were 275,502 deaths from smallpox in five years, from 1893 to 1898. In Spain, with a population of only ten and one half millions, there were 23,881 deaths from smallpox during this period. Hungary had 12,241 deaths, and Italy and Austria over 11,000 deaths. In Germany, however, during the same five years, the total number of deaths was 287, and these were largely in persons of foreign birth who had not been subjected to the vaccination laws of the country.

Statistics of this character might be multiplied *ad infinitum*. Likewise could one publish pages upon pages of clinical experiences, showing the protective value of vaccination in individuals. The experience of every smallpox hospital, in every land, and in every century, is in accord upon this subject. The immunity of recently vaccinated persons—nurses, physicians, and others—is a fact established beyond the peradventure of a doubt. No physician who has had a large experience with smallpox could possibly fail to believe in the wonderful efficacy of vaccination. Indeed, I know of no physician of large smallpox experience who is an antivaccinist. The few physicians who are found in the ranks of the antivaccinists are usually men without practical experience in smallpox; they argue with statistics (often wittingly or unwittingly distorted), and not with facts derived from practical observation. Against the statements of such men place, for instance, that of my friend and colleague, Dr. William M. Welch, of Philadelphia, who during an experience of thirty-five years has seen and treated almost 10,000 cases of smallpox. He says: "During all of this time, we have not had a physician, nurse, or attendant, who has been successfully vaccinated prior to going on duty, contract the disease."

It is obvious, therefore, that opposition to vaccination cannot be justly based upon the claim that vaccination does not protect against smallpox (to be sure, when vaccination is referred to we include revaccination at proper intervals). What, therefore, is the cause of the antagonism, often bitter to a degree, which is manifested by some people against this measure? To my mind the causes are

chiefly two: first, the occasional accidents of vaccination; and second, the attempt at compulsory enforcement. Every law curtails personal liberty and limits individual freedom; but when such laws or regulations are for the common good, no proper exception can be taken.

As regards the accidents of vaccination, much can be said. There can be no question that the production of a wound upon the skin and the rubbing in of a virus is occasionally followed by some untoward circumstances. The mere prick of a pin or the cut of a razor may at times lead to blood-poisoning and death. It is not to be wondered at, therefore, that vaccination, which produces a cutaneous wound, should occasionally be complicated by infections common to wounds. When, however, we consider the enormous number of people who are vaccinated in the world (in Germany alone, from 1885 to 1897, 32,000,000) we recognize how infinitely small is the number of persons who suffer any serious inconvenience after vaccination. The mortality in Germany, carefully estimated by Voight, is about one to every 65,000 vaccinated. The deaths from the use of chloroform in England are about one in every 2,000 anæsthesias; from ether, one in 20,000. It is thus seen that the mortality from ether-anæsthesia is three times as great as that following vaccination in Germany. It would doubtless also be found that the mortality of railway travel is likewise greater than that of vaccination. How absurd it would seem to abolish ether-anæsthesia or railway travel because of occasional accidents! How much more absurd it would be to abolish a measure which has saved 60,000,000 lives in the course of the last century! The reasonable course would be to surround railroad traveling, the administration of anæsthetics, and vaccination with every safeguard known to modern science, and thus to reduce accidents to a minimum. If vaccination were to be abolished throughout the world for a period of twenty-five years, it would cause, at or before the end of that period, an annual loss of at least 1,000,000 lives from smallpox. Thomas Jefferson, in a letter written to Jenner in 1806, said: "Yours is the comfortable reflection that mankind can never forget that you lived; future nations will know by history only that the loathsome smallpox has existed and by you has been extirpated." Thomas Jefferson's prophecy fails of fulfillment only because vaccination and revaccination are not universally adopted. When the rare instances of death following vaccination are compared with the frightful slaughter of thousands by smallpox before the days of vaccination, and even at the present day in countries where vaccination is neglected, the benefits of Jenner's God-given discovery may be appreciated.

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MENTAL DISTURBANCES CONCOMITANT WITH PHYSICAL DERANGEMENTS.

The physician who fails to note and give adequate attention to disturbances of the mind, in caring for bodily disorders, is either nonobservant or remiss in his duty. If the fact that the mind and its processes almost inevitably suffer along with derangements of bodily functions is not held constantly in view, grave injustice may be done to the patient, or by the patient or his family to the physician, or to both. That this omission is only too common, and often disastrous, is a matter of constant experience with the neurologist. It requires, however, no special equipment of neurologic training for excellent results to follow the daily work of the general practitioner. The writer is impelled to offer certain suggestions, the product of experience and conviction, by the feeling that this knowledge is not sufficiently wide-spread.

The modern concept of insanity is vastly simpler, more practical, hence more scientific, than was possible a score of years ago. The history of the movement among alienists to clarify the subject is interesting. The writer was fortunate in having been eye-witness of an epoch-making occasion in 1894, when S. Weir Mitchell delivered a memorable address before the Association of Asylum Superintendents and boldly told them certain truths which, at the time, were little relished, and, indeed, combatted bravely. These were, in brief, that their best efforts had not been given to a proper study of mental processes exhibited by persons in their keeping, opportunities both priceless and unique, but that they spent their days in a dreary round of material considerations involving housing, feeding, more or less crude disciplining, much farming, and some (but too much) politics. The fiercer ones raged; the wiser ones reflected; and since then, at least here in America, a salutary revolution set in, so that now these same gentlemen and their successors have nobly revised their methods and become teachers for that profession of which many of them are brilliant ornaments.

It is now plain and widely accepted that there can be few or no definite recognizable mental disorders, independent of demonstrable physical derangements. Contrariwise, it may be laid down as a working axiom that few physical derangements can exist without the occurrence of more or less mental alienation. The larger conditions of mental disease, passing into those states commonly called insanities, are, in essence, differences of degree and permanence of physical disorders, dependent upon the possibilities of recovery, with or without residual lesion.

It is scarcely conceivable that any individual can be found whose mental status, at all times and under all circumstances, remains in normal equipoise.

Some betray little or no departure from the normal. Such people may be assumed to enjoy an enviable degree of physical integrity. Part of this is inherent, and part acquired—both the mental and the physical. It is eminently true that wholesome mental control is powerful for good effects upon the bodily functions. Therein lies the distinction of the human being from the brute, and evidences the divine something which raises us above the beasts that perish. It is also undeniable that even among animals, below man, differences of mental control and departures from instinctive impulses are at times plainly discernible, due to accidents of circumstance and training. Some of these brutes, moreover, are subject to ungovernable rages and fears, reversals of customary instinctive impulses, with or without recognizable causes. Others again, in the face of grave provocation, maintain self-control and exhibit most admirable conduct. In man, the status of the mind is to be estimated in the light of early development and education.

Human conduct depends on suitable circumstances of environmental molding, inherent endowment, and intuitive impulse. Just how uniform these may remain can only be measured in terms of physical variants. Bearing in mind that the mental balance, wholesomeness of act, fixity of laudable purpose, etc., can only be maintained in an organism adequately sound, practically unimpaired, it becomes necessary to determine where the mental vagaries pass over to the abnormal—how far, in short, mental physiology has become pathologic. What Maudsley said in 1873 or before, is curiously true to-day, and it is strange that the profession has made so little progress in carrying out his wise recommendations in practice. "The observations and classifications of mental disorders have been so exclusively psychologic that we have not sincerely realized the fact that they illustrate the same pathologic principles as other diseases, are produced in the same way, and must be investigated in the same spirit of positive research."

In his charming little book, "The Neuroses of Development," Clouston long ago made it entirely clear how the slightest disturbances of the functions of the growing brain are capable of altering the integrity of cerebral energizing, and if menacing conditions, endurable for short periods, and in moderate degrees, are maintained a little too long, or increased beyond a certain bearable degree, the structure of the brain suffers for the time, or permanently.

If in connection with this thought one will turn to the most modern views and refresh his knowledge of the elementary vital phenomena, of metabolism, from changes in cells, the transformations of energy, the relationships of stimuli to vital actions and the phenomena of stimulation and all the beautiful mechanisms of life, he will see how these things are not only possible, but inevitable. We get too far from physiology in our daily work. The normal mind is subject to constant fluctuations; of this we are all more or less aware. We call these moods,

and some are notably more moody than others. It is fair to assume that those who live the most simple, uneventful lives, and who are subject to the least organic perturbations, will be and remain the sanest. Still, there will be evident on strict scrutiny, perpetual variations in mentality. The explanation of this may be founded upon the same physiologic principle of rhythm which governs the diurnal rise and fall of vigor; and may be subject to similar normal fluctuations. Any one capable of wise introspection (a most useful quality) will recognize that there are times when the mind acts more efficiently than at others. It is the part of wisdom to seize upon these periods of mental vigor to arrive at conclusions on important subjects. This can readily become abused, and one-sided views are easily acquired, especially if too little self-discipline is enforced in the ordinary cerebrations employed in routine decisions. The lucid intervals are best reserved for revisions.

The causes of these fluctuations are perfectly natural and due in part to the influences of such agencies as refreshment by rest, sleep, or food; also to voluntary concentration of thought, the stimulus of special occasion, competition, and a number of ever-recurring mutations. Again, during the phase of mental wavering dominating influences are more forceful for good or evil, depending on accident rather than choice. Many persons are always ready to assume the color of thought accidentally projected upon them; unless the habit of independent decision is cultivated, they become mentally flabby. These are they who become mental invalids as well as hypochondriacs, and the difficulty of effecting cures in such is in proportion to their capacity to acquire stability of volition.

Mental states, diverging from the usual or dependable, are recognized and labeled, such as hysteria, hypochondriasis. We speak of people not actually accused of loss of responsibility, as eccentric, frantic, melancholy, raving, infatuated, insensate, possessed, crackbrained, rabid, wild, flighty, distracted, daft, and a long array of current phrases expressing our suspicions, our low estimate of their actions. If we are prepared to emphasize our criticisms further, we may use such words as crazy, idiotic, imbecile, affected by a mania such as monomania, dipsomania, even kleptomania or erotomania, deluded, under a hallucination or illusion, touched in the head, unhinged, demented, stark mad, exalté, and keep well on the hither side of discretion or actionability. We may not have exceeded our right to formulate their rating, and yet our words are merely colloquial and not, or rarely, accusatory. The actions or words which instigated our expressions may have fully justified even stronger or more systematized opinions. Yet if we were to be called to account for our statements, only alarm and apologies would probably follow. If a medical adviser should gravely warn the family and friends of those who do, and say, more than enough to justify his accusation, and yet the

conduct of the person fall within the privileges of a commonly lax estimate of vagaries of conduct, he would be woefully misunderstood and probably do himself great harm. Time and again must the medical man stand by and see mental vagaries develop into conditions of madness, mania, or even dementias, which could have been prevented or limited till some overt act, more or less hurtful to the patient or his friends, make it possible to lay hands on the sufferer and commit him for treatment. Too often it is then too late to secure good results.

If only the impression could be inculcated among the laity that conduct and speech suspicious of mental alienation demands prompt and efficient treatment conformable to that for ordinary physical derangement, vast trouble would be saved.

By the same token, if physicians, especially the trusted family practitioner, should be permitted adequate privileges of interference and control, along with ampler opportunities of observation, fuller confidences by families, partners, confidential employees, many a life, many a fortune, and endless collateral suffering could be saved.

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Cyclopædia of Current literature.

ADRENALIN IN OPHTHALMIC THERAPEUTICS.

The writer considers that adrenalin has a very limited field of usefulness in ophthalmic therapeutics. It should be used, if used at all, in superficial inflammation of the conjunctiva. Corneal and deep-seated inflammations are contraindications to its use. It is not a harmless agent, but it may, under certain circumstances, give rise to serious conditions. It should not be employed in elderly people, even in superficial inflammation, and it should never be used in cataractous eyes, as it may precipitate an acute attack of glaucoma. Neither should it be used in glaucoma in combination with eserín, for its obstructive action retards the myotic prin-

ciple of the eserín. Aaron Brav (*American Medicine*, July, 1906).

APPENDICITIS AND MUCOUS COLITIS.

The increased attention which has been accorded to appendicitis as a surgical disease, to be treated by operative measures at the earliest possible opportunity, has, no doubt, resulted in the performance of an operation in many instances in which the subsequent course of events showed that such a radical method of treatment was not indicated. This haste to operate is favored by an experience which has shown that the uncertainties connected with an acute attack of this disease make surgical interference the procedure of choice; but the haste which is often manifested also

stands in the way of an accurate and careful diagnosis, and when a closely simulating condition is the cause of the patient's symptoms, the removal of the appendix naturally fails to accomplish the desired end. One of these conditions is mucous colitis. This was discussed in a recent address by Prof. Dieulafoy, who showed that it was a disease likely to be confused with typical appendicitis. The patients have usually had one or more attacks of colitis, they are constipated, they may have from time to time evacuations of slimy, bloody stools, and complain of pain in the region of the cæcum or the ascending, transverse, or descending colon. As appendicitis is often traced to a previous enterocolitis, the other clinical features of the case may be overlooked or underestimated, and the diagnosis of appendicitis given to the patient and operation advised. When the latter is done no evidence of peritonitis is to be found, there are no adhesions, and the appendix is entirely normal, as is proved by later histological examination. Furthermore, the attacks to which the patient has been subjected come on again after the operation, and the other symptoms of the colitis continue as before.

Dieulafoy is not inclined to attribute to the histological diagnosis of appendicitis the usual amount of faith with which this is ordinarily received. It has been found that in many cases when the gross appearance of the appendix was apparently normal the microscope showed bands of fibrous tissue, hypertrophy of some of the crypts, and a hæmorrhagic folliculitis. Dieulafoy claims that if the appendix of an adult be examined after death, no matter what the cause of the latter, such changes will always be found, particularly in the distal portion of the organ, and they are

of no especial importance. The effusions of blood and the follicular hæmorrhages are not, it seems, evidences of appendical inflammation, but are due to trauma produced during the operation.

Such diagnostic errors will not occur if greater weight is given to the clinical picture of appendicitis as a whole, rather than to any one symptom. The presence of pain in the right iliac fossa does not necessarily point to appendicitis, particularly if it is associated with an enterocolitis. Dieulafoy does not believe that appendicitis is one of the results of an enterocolitis, and it has been his experience that the presence of pain in the right iliac fossa in such cases points rather to a typhilitis than an appendicitis. The term typhilitis has not found much favor on this side of the water, heretofore, but there are evidences that the necessity of the distinction is being recognized. Appendicitis, particularly that variety which is likely to be confused with an attack of colitis, affords a well-marked, characteristic clinical picture. The patient is suddenly seized with the pain, and there are no prodromal symptoms; whereas the individual suffering from colitis will give a history of intestinal disturbances extending over months and years. In both conditions there is tenderness in the right iliac fossa, but in the latter it is never so closely identified with McBurney's point; moreover, the muscular rigidity, the hyperæsthesia of the skin, nausea, vomiting, and a rise of temperature associated with true appendicitis are absent in mucous colitis.

There is no doubt that the feverish haste to operate in every suspected case of appendicitis is gradually abating, and greater efforts are made to establish the diagnosis firmly before subjecting the patient to a procedure with

which there must always be associated an element of risk. Dieulafoy's warning as regards the confusion of appendicitis with certain forms of colitis is in line with the conservative views regarding appendicitis which are being more universally adopted. This constitutes, however, in no way a restriction to the axiom that when we have to deal with an actual case of this disease, early operation is the best possible procedure for the welfare of the patient. Editorial (Medical Record, August 4, 1906).

BALDNESS, PREVENTION OF.

In order to combat baldness successfully it is necessary to begin as promptly as possible after it is first noticed that the hair is beginning to fall. Healthy hairs do not come out, and if hairs are found on the pillow, on the clothing, or in the hair-brush, the indication is given for beginning treatment. One of the most important, yet very generally neglected, prophylactic measures consists in frequent ablution of the head, a measure that is still considered injurious by many people. On the contrary, frequent shampooing and rubbing of the head is the best preventative of baldness. Another feature on which the author lays much stress is the necessity for cleanliness in all utensils used in the barber-shop or in private.

Actual baldness cannot be cured, but a great deal can be done to prevent its onset, by properly treating the tendency to falling of the hair. A course of treatment is outlined, of which the following are the most important features: Daily shampooing with soap and hot water, followed by drying and the application of a 1 to 1000 solution of bichloride of mercury. This is allowed to evaporate, and the scalp is then rubbed with a 1 to 400 solution of thymol

or naphthol in alcohol. Finally, an ointment is applied, containing one part of salicylic acid, two of tincture of benzoin, and fifty of vaseline. In obstinate cases the treatment is begun by the application of tar liniment, which is removed ten minutes later with the soap. Lassar (*Deutsche medizinische Wochenschrift*, July 5, 1906; *Medical Record*, August 4, 1906).

CASTS IN THE URINE, ORIGIN AND SIGNIFICANCE OF.

The epithelial, granular, and hyaline casts have a common origin from the epithelial cells of the convoluted tubules by a degeneration and metamorphosis of the cells. Casts alone, or casts and albumin, give no definite data as to the anatomical kidney-condition. They may be found in greatest numbers in non-nephritic conditions, and, vice versa, in the severest grades of nephritis there may be few, or none. Casts alone have no diagnostic or prognostic value, except after frequent examinations, and then only after a careful physical examination. Epithelial, blood, and pus casts are more common than is generally supposed. They may occur in a great variety of conditions, and do not merit the significance usually given them. The discovery of hyaline casts on repeated examination means a subacute or chronic kidney-lesion. Their number is not of such importance as the length of time during which they occur. L. M. Warfield (*St. Louis Medical Review*, July 28, 1906).

CHORIO-EPITHELIOMA.

Metrorrhagia, following abortion or labor, should call for more prompt investigation, especially in women under thirty. Dilatation and curetting, in

such circumstances, is an operation of considerable responsibility, in view of the possibility of malignant disease. Sharp curettes are contraindicated in the parturient uterus and where septic infections exist. All such curettings should be submitted to an expert pathologist for microscopical examination. Continued metrorrhagia, after such treatment, should be regarded as of serious import, and should call for fresh investigation and prompt radical measures. J. T. Hewetson (Practitioner, August, 1906).

COFFEE AND COCOA, ACTION OF, ON GASTRIC SECRETION.

The writer studied the action of coffee and cocoa on the gastric secretion in dogs that had been subjected to Pawlow's operation, by means of which a small portion of the fundus of the stomach is isolated in such a way that its secretion can be collected through a cannula. Such a dog was given water, milk, coffee, tea, and cocoa in different combinations, in order to determine the effect on the secretion of gastric juice. It was found that coffee produced a very prompt increase in the amount and acidity of the gastric juice secreted, the stimulation being of short duration, however. A malt substitute for coffee exhibited the same property, though to a somewhat less marked degree. Tea had a distinctly inhibiting effect. The action of cocoa appeared to depend largely on the amount of fat contained in it. A sample from which most of the cocoa butter had been removed stimulated gastric secretion to about the same degree as coffee, but a specimen containing a large proportion of fat caused only a very moderate increase, the effect of the fat being strongly inhibitory. Pincussohn (Münchener medicinische

Wochenschrift, June 26, 1906; Medical Record, July 21, 1906).

COLITIS, SURGICAL ASPECT OF.

The writer considers that colitis should be looked upon as a symptom rather than a disease. A careful examination should be made, if possible, with the sigmoidoscope, and the cause of the colitis should be carefully determined before any treatment is adopted. If the colitis is due to disease in some neighboring organ, such as the appendix, kidney, or gall-bladder, etc., this condition should be treated by operation. If the colitis is secondary to malignant disease in the bowel, operation at the earliest possible moment affords the only chance of cure, and an early diagnosis is here of the utmost importance. If it is due to some local lesion, such as tubercle or actinomycosis, it must be treated locally; if necessary, by operative means, such as colotomy or enteroanastomosis. True mucous colitis is best treated by Von Noorden's method of dietary, combined, if necessary, with irrigation of the colon.

In some very obstinate cases, and especially in cases of ulcerative colitis, a temporary cæcotomy or colotomy, or anteroanastomosis, seems to be the only method of cure, but should not be adopted until a careful trial has been made of palliative treatment. P. Lockhart Mummery (Practitioner, August, 1906).

CUTANEOUS INFLAMMATION, THE RELATION OF NERVE-IMPULSE TO.

The idea that nerve-impulse alone can initiate inflammation is widespread in dermatology, and forms the basis of the explanation of the pathogenesis in several conditions. Reflex action is the form of nerve-influence most frequently

set forth as the originator of inflammation. A reflex requires for its production two kinds of nerve-fiber, sensory and motor, a receiving center, and a stimulus applied at a sensory termination. The sensory impulse thus created is converted at the center into motor-impulse which, passing to the terminations of the motor-fibers, causes the organ innervated to perform its function. Any nerve-impulse, to be directly effective in producing inflammation through reflex action, must be motor in nature.

Inflammation is a complex which, when complete, presents the following stages in its development: Dilatation of the blood-vessels, slowing of blood-stream and margination of leucocytes, diapedesis of cellular and fluid constituents of the blood with formation of exudate, and proliferation of fixed-tissue elements. Authorities differ in their conception of inflammation. In the broadest view taken, tissue-proliferation is always present, migration of leucocytes usually is found, and vascular changes may occur. In the most restricted view, vascular phenomena must be present; in other words, all the stages enumerated must be found. Tissue-proliferation and leucocytic migration, therefore, are common to all conceptions of the process.

Of the stages mentioned, direct motor-impulse can produce dilatation of the blood-vessels and secretion of fluid by the endothelium. It is possible that it may influence indirectly the slowing of the blood-stream, the margination of the leucocytes, and the readiness of passage of the latter through the vessel-walls. Motor-impulse has no direct relation to the migration of leucocytes and proliferative tissue-changes, and hence is not sufficient to produce inflammation unaided and alone.

The factor necessary to supplement nerve-action must embody the requirements of chemotaxis, the power of attracting leucocytes. This embodiment is found in external irritation. The four sources of irritation, chemical, mechanical, thermal, and actinic, by analysis may be narrowed to one, namely, chemical. In chemical irritation reside all the essentials for the production of the full inflammation-complex; it can initiate the requisite nerve-action and can supply those factors which are necessary in addition thereto for the complete development of the process.

The products arising from the degeneration or destruction of protoplasm, whether from trauma, perversion of trophic nerve-influence, or disturbance of cellular nutrition, may be toxic to living cells, and so furnish the chemical irritation requisite for the initiation of inflammation. This is probably the *modus operandi* in the various forms of herpes. A purely reflex dermatitis is an impossibility for the reason that every inflammatory skin-lesion, because of the nature of the pathologic process involved, must have in its etiology the factor, local toxic irritation. E. L. McEwen (Journal of the American Medical Association, July 7, 1906).

CYSTIC KIDNEY, CONGENITAL.

If there is sufficient healthy tissue between the cysts to perform the normal renal functions, the disease may never attract attention, and the patient may live a normal life and die of disease independent of the kidneys. Under the same conditions as to renal tissue, while the renal secretion is normal, the cysts may cause pain and discomfort from their size and weight without dangerous symptoms, for years. Mobility

of the kidney, with its accompanying troubles, may result from this enlargement. The growth and enlargement of the cysts may so strangulate and compress the normal kidney-tissue between them as to throw it out of commission, so that stasis and uræmia may result.

The normal tissues between the cysts may become affected by the various forms of nephritis, just as healthy kidney may, and this nephritis may be fatal in itself or by reason of the cardiac and arterial changes which accompany it. The same cardiac and renal changes may, and do, accompany the compression of the intervening tissue by the cysts, and are not an infrequent cause of death in these cases.

The surgical aspects of the disease relate to the pain and discomfort due to the size of the tumors or mobility resulting from them, and in operating for these conditions it is all-important to remember the pathology of the disease, and more especially the fact that it is bilateral in 98 per cent. of the cases. A cystic kidney, while causing pain and disability by its enlargement, may still be performing so large a part in urinary excretion that its removal would be dangerous to life from renal insufficiency. It, therefore, becomes important to take, if possible, some means to diminish the size of the offending organ and anchor it in its place without interfering with its secreting functions. Such a procedure, which will be vastly safer than nephrectomy, consists of the free incision and puncture of the larger cysts, thus diminishing notably the size of the kidney, and suturing of the organ in position. If for any reason a nephrectomy seems desirable, it should not be performed unless an exploratory incision or ureteral catheterization has demonstrated that the other kidney is

healthy. F. B. Lund (Journal of the American Medical Association, August 18, 1906).

DECIDUAL TISSUE, SIGNIFICANCE OF.

The passage of a decidual membrane in a patient with symptoms of pregnancy and with a mass on one side, together with a history of flowing, is extremely significant of an extra-uterine pregnancy; but cases do occur where this seemingly conclusive chain of evidence is not proof of an extra-uterine gestation. An ordinary miscarriage may be preceded by the exfoliation of a part or the whole of the decidua vera. The pathologist who receives a specimen of decidual tissue should make his report with extreme reservation, to avoid the commission of a serious surgical blunder.

It may be impossible to differentiate, even with the greatest microscopic care, between an exfoliated dysmenorrhœic membrane and the decidua of an extra-uterine pregnancy, and the pathologist, before committing himself to a diagnosis, should insist on knowing accurately the history of the patient. W. P. Graves (Boston Medical and Surgical Journal, July 26, 1906).

DIGESTIVE ORGANS, RECENT ADVANCES IN THE PHYSIOLOGY OF THE.

The writer states that recent studies show that neither ether, nor the cooling of the viscera, nor the drying, in abdominal operations, checked to any marked degree, the onward passage of food. On the contrary, even the most gentle handling within the peritoneal cavity was followed by absolute cessation of gastric peristalsis. The onward passage of food was retarded by the finagling of the stomach and intestines. These observations were made on nor-

mal, vigorous animals. There is a very close relation between the functioning of the alimentary canal and the general state of the body. There also exists an interrelation of different parts of the canal which unites the digestive processes in an orderly series of successively dependent events. In relation to the former statement, it has been proved that depressing emotions not only check the movements of the stomach and intestines, but also inhibit the secretion of the gastric juice. Chewing food that is relished starts the flow of the gastric juice. The presence of gastric juice in the duodenum causes the flow of bile and the pancreatic secretion. The pancreatic secretion stimulates the formation of kinase, which activates the trypsinogen. On the motor side of digestive activities, the presence of material in the stomach normally starts gastric peristalsis. Acid in the stomach seems to be the cause of the opening of the pylorus, through which the food passes. Acid food in the duodenum closes the pylorus and originates segmenting movements to churn together the food, pancreatic juice, and bile. The masses are carried forward by peristalsis, and in new situations their presence occasions segmentation. W. B. Cannon (*American Journal Medical Sciences*, April, 1906).

DYSENTERY, TREATMENT OF.

The simple catarrhal form of dysentery, with a history of diarrhoea for one day, and then frequent, very scanty, mucous, bloody stools without faeces, yields readily to four grammes of sodium sulphate administered hourly until a faecal stool is passed. This should be continued on successive days until tenesmus disappears. In the severe gangrenous form good results follow

Manson's method. No food is given from midnight to four a. m., and twenty drops of laudanum are given, and half an hour later between two and four grammes ipecachuana in capsules. No food or drink is given until 7 a. m. Peritonitis is the most serious complication, and then heart-failure and pneumonia. Injections are only useful in chronic cases. C. B. Amos (*Lancet*, August 4, 1906).

DYSMENORRHOEA.

The author states that dysmenorrhœa is a symptom, not a disease; its cause must be ascertained and treated. The various types of pain are classified as follows:—

I. Painful uterine contractions. (a) Obstructive dysmenorrhœa; this may be: (1) Absolute; this is a very rare condition, whether congenital or acquired. (2) Partial; due to a partially occluded cervix, the result of a faulty operation, or to cauterization. (3) Relative; due to the presence of clots in cases of subinvolution and retroversions, where there is a bulky, feebly contractile uterine body. (b) Spasmodic dysmenorrhœa. Here the pain comes on before the flow, and is intermittent in type. It is probably due to spasm of the cervical sphincter, caused in turn by persistent infantile characteristics, the presence of a small fibroid, an overloaded rectum, etc.

II. Congestive dysmenorrhœa. (a) True pelvic congestion. This may be due to displacement of the pelvic viscera, to tumors of the uterus, ovaries, or tubes, or to venous engorgement of cardiac, pulmonary, or hepatic origin. As a result there is an increase of the normal vascular tension during menstruation. The patients are usually heavy, dull women, of lethargic habits.

(b) Pelvic inflammation. Here there has been preceding pelvic inflammation, as a result of which either the venous return of the blood is interfered with by means of adhesions, or the uterus is displaced or rendered immobile by cicatricial bands.

III. Ovarian dysmenorrhœa. Occasionally the maturation and escape of the ripened ovum from the ovary is accompanied with difficulty and pain, due to thickening of the capsule or adherence of the ovary. If ovulation should not occur concomitantly with the menstrual cycle, this ovarian dysmenorrhœa causes an intermenstrual dysmenorrhœa called "mittelschmerz," with which there is usually more or less profuse mucopurulent or watery discharge.

True obstructive cases must be treated by temporary relief of the symptoms. Complete obstruction calls for incision; partial, or relative obstruction, for dilatation. In the spasmodic form, general medicinal treatment is called for; the bowels and skin must be attended to, and iron given in the anæmic cases. Alcohol, opium, or chloral should never be given. Dilatation of the cervix may eventually be called for. In congestive dysmenorrhœa, cannabis Indica often works well. Efforts should be directed towards encouragement of the flow, and to relieve the congestion by acting on the other excretory organs. Any uterine displacement should be manually rectified, and a pessary inserted, if necessary. When the pain is due to old inflammation, operation may become necessary. Ovarian dysmenorrhœa is treated by means of sedatives (especially bromides) and the relief of congestion. Operative treatment is unsatisfactory. A. Routh (British Medical Journal, August 4, 1906).

ECZEMA, ETIOLOGY OF.

Almost all writers on the etiology of eczema, however much they may differ from each other in their views regarding the pathogenesis of the disease, are at one in considering that some special predisposition or idiosyncrasy on the part of the individual is essential before one or other of the various agents which have been incriminated can produce eczema or eczematisation. Such factors as age, sex, race, and climate seem to have little bearing upon it. Heredity, on the other hand, may predispose in so far as it is responsible for a hereditary delicacy of the skin; and states of enfeebled health, such as may be caused by alimentary troubles, kidney-disorders, and nerve degenerations, may all act as predisposing causes, by lowering the resisting powers of the skin and rendering it more liable to react to irritants. There are also various pathological conditions of the skin which structurally predispose to eczematous attacks, such, for example, as xeroderma, ichthyosis, and senile skin.

Given the proper state of predisposition, whether it be congenital or acquired, various irritants seem capable of causing the affection. But there is the greatest diversity of opinion with regard to the irritants, whether they are external, internal, or both. The exponents of the diathetic theory, or of the view that toxins from the alimentary tract are responsible for eczema, emphatically deny the power of external irritation to produce the disease; while those who support the external irritant theory believe that the etiology of the disease can only be explained on that basis. Hall, for example, asserts that external irritants are entirely responsible for infantile eczema, which he describes as "occupation eczema of infancy." The

predisposing cause of this he believes to be the state of instability of the neuro-cutaneous apparatus of the infant, owing to the sudden change from a "sub-tropical aquatic life in the amniotic fluid to a terrestrial life in a temperate zone," and the actual causes to be such external irritants as cold, imperfect drying, soaps, dust, etc.

For the adult, the predisposing cause might be a state of over-stimulation or irritability of the nervous system, and the actual cause some form of mechanical irritant, such as friction, irritating fluids, sunlight, etc. The problem, however, is still *sub judice*; perhaps in the light of future researches it may be solved. Until then it is wisest to study each case as it presents itself, to avoid hasty generalizations, and to keep an open mind on the subject. J. M. H. MacLeod (Practitioner, July, 1906).

EPITHELIOMA, TREATMENT OF.

In a certain number of cases, epitheliomata of the skin are best treated by means of caustic potash. These cases comprise such as display small, well-defined, pearly lesions, from one-half to one or even two centimeters in diameter, chiefly found upon the face and adjacent parts. Larger lesions are best treated by the x-ray, but here caustic potash may be used to soften and dissolve the horny epithelium, and perhaps, in some cases, as an adjuvant. In cases treated by caustic potash, the use of the x-ray does not appear to hasten the process of reparation or to modify to any marked degree the cicatrix resulting from cauterization. Arthur Van Harlingen (Journal of Cutaneous Diseases, August, 1906).

ETHYL CHLORIDE AS A GENERAL ANÆSTHETIC.

After several years of more or less constant use of ethyl chloride, in both clinical and in private practice, the writer states that he has still to see the first case to cause him the slightest fear or uneasiness. He declares that when used with care and understanding he prefers ethyl chloride to any other anæsthetic in short operations, except, perhaps, nitrous oxide gas. The following precautions should be observed, however: (1) The patient should be prepared as for chloroform or ether; (2) whatever mask is used, it should fit the face snugly; (3) a graduated tube with a large aperture should be used; (4) the anæsthetic should be well supplied with air, and as little given as possible; (5) care should be taken not to present it at first in too large a quantity, frequently a dram is sufficient for short operations; (6) the patient should rest awhile after its administration, as faintness sometimes supervenes; (7) a mask should be used which does not receive the drug close to the patient's face; otherwise one is liable either to freeze the face of the patient, or to cause asphyxia by the moisture from the expired air freezing on the gauze in the mask, and thus preventing the free passage of air to the patient. G. F. Hawley (Journal of the American Medical Association, August 18, 1906).

GALL-STONE DISEASE, MEDICAL TREATMENT OF.

The author considers that gall-stone disease is not purely a disease due to a foreign body, but is primarily a hepatic disorder. The removal of these stones has but little to do with the cure of the patient, for when the end result—the removal of the gall-stones

—has been accomplished by surgery, the patient is but at the commencement of his treatment to remove the cause of the disease, which is entirely within the province of the physician. The congestions and inflammations in the domain of the portal system are the conditions that require treatment, and the infectious catarrhs of the bile-ducts and gall-bladder, and faulty bile-formation in the liver, are those that need correction, and these are purely medical problems. R. W. Wilcox (*Journal of the American Medical Association*, August 4, 1906).

GASTRIC DIGESTION, INFLUENCE OF REST, EXERCISE, AND SLEEP ON.

In persons with normal digestive powers it makes but little difference whether the individuals rest, exercise, or sleep after meals; though after violent exercise or sleep the gastric digestion is very slightly impaired. In patients suffering with superacidity and subacidity, it is best to order rest after meals; after violent exercise or during sleep, the digestion is impaired in these cases. In patients suffering with motor disturbances of the stomach, it is best to prescribe moderate exercise after meals, for rest, violent exercise, or sleep disturbs the digestion under these conditions. Julius Friedenwald (*American Medicine*, August, 1906).

GASTRO-MESENTERIC ILEUS.

The author states that acute dilatation of the stomach and gastro-mesenteric ileus cannot be differentiated clinically. Obstruction to the lumen of the duodenum by the root of the mesentery and the contained superior mesenteric vessels has been demonstrated, and is probably of more frequent occurrence than has been supposed. Whether this

is primary or secondary to the gastric dilatation, or whether this relationship is a constant one, has not been determined. The diagnosis would appear to be more easy than past failures seem to indicate. The use of the stomach-tube and avoidance of dorsal decubitus offer better results, probably, than secondary operation, owing to the unsatisfactory condition existing. With earlier diagnosis and the early institution of the measures suggested by the writer, an improvement in the very high rate of mortality can be confidently expected. J. M. T. Finney (*Boston Medical and Surgical Journal*, August 2, 1906).

GASTROSTOMY, NEW METHOD OF.

The writer points out that of the numerous methods of gastrostomy practiced for the palliative treatment of œsophageal stenosis, those which are based on the formation of a more or less elongated canal give, with regard to continence, the best functional results. The operations hitherto devised with this object by Witzel, Kader, and others, present, the author holds, several disadvantages. The canal formed in each of these methods, as it is not lined by mucous membrane, has a constant tendency to close, and moreover, as it is narrow, and admits only a tube of small caliber, nourishment must necessarily be administered in a fluid form. The more recent have, in common with the older methods of gastrostomy, the serious disadvantage of anchoring the stomach to the abdominal wall, and of thus restricting the movements of the viscus, which might impair its functional action. These disadvantages, it is held, might be overcome by interposing between the gastric and the external openings an excluded or resected portion of small intestine, still connected with

its corresponding portion of mesentery, the divided ends of the intestinal canal being united by end-to-end suturing. In this way may be formed a new œsophagus, with peristalsis acting in a direction towards the stomach.

After very satisfactory trials of this method on animals, the operation was practiced by the author, with excellent results, on a man, aged 32, for the relief of impermeable stricture of the œsophagus. In this case a portion, 15 centimeters in length, of the small intestine just beyond the jejunum was resected, and, after the intestinal continuity of the rest of the intestinal tract had been re-established, was passed through openings made in the omentum and mesocolon, and fixed by its anal end to the margins of an opening made in the anterior wall of the stomach, and by its gastric end to the external wound. In this case, it is stated, not the slightest trace of fluid food, which could be freely and readily passed into the stomach, was extruded on coughing and violent exertion.

In regard to the objection, a serious one in cases of advanced œsophageal stricture, of gastrostomy by this method being a long operation, the author suggests that this may be overcome to some extent by fixing the outer end of the excluded portion of the small intestine, not to the large original wound in the abdominal wall, but to a much smaller one made quite apart from this. A few minutes may be thus gained in the application of sutures, and, as a further advantage of such modification, it will be possible to feed the patient soon after the operation without any risk of soiling the sutures of the original and larger wound. Tavel (*Zentralblatt für Chirur-*

gie No. 24, 1906; *British Medical Journal*, July 21, 1906).

GOUT.

The author believes that constitutional gout and acute attacks of gout are two quite different things. The constitutional uric acid diathesis exists permanently, and on this soil the acute attack of gout develops which, in its essence, is more like acute articular rheumatism and is of infectious origin. Acute articular rheumatism affecting a single joint is called gout if the big toe happens to be affected, and not if it happens to be in another joint. Retention of uric acid seldom occurs in the young.

The resistance to infectious diseases of persons during and past the prime of life is attributed by the author to the accumulation of immunizing substances in the body. The periodicity of recurring attacks of gout may be due, he thinks, to some transient immunization left from one attack, which dies out in time, leaving the way clear for renewed infection. The necrosis resulting from the compression of the accumulating urates offers a favorable soil for the development of an infectious process, and the local phenomena of an acute attack of gout certainly indicates the existence of some such process. Some infection, especially autoinfection, can generally be learned in the history of a case of gout. Digestive disturbances, catarrhal affections, bronchitis, influenza, erysipelas, pneumonia, or the like, are frequently mentioned as having preceded the acute attack. Premonitory pains in the limbs, palpitations, etc., are not rare, and indicate some intoxication from the intestines or from some focus of infection. The infectious germs in question are not very virulent,

and an infectious process does not result until after the organism has been depressed from some cause.

The prevalence of attacks of gout in the spring and fall is probably connected with the frequency of catarrhal affections of the upper air-passages during these seasons. Severe purging is liable to bring on an acute attack of gout, probably from some superficial lesion of the intestinal epithelium. Another argument in favor of the infectious nature of the acute attack of gout is the frequent discovery of swollen lymphatics on the limb affected. In some instances these swollen lymphatics can be traced up the leg to the groin, where enlarged glands can be palpated.

Treatment should first aim to spare the kidneys and to favor elimination of uric acid. The clothing, exercising, etc., should be that found most beneficial in case of kidney-affections. In case of an impending acute attack, search must be made for the portal of entry of the infectious agent, and antiseptics and salicylates should be given, with possibly disinfectants injected directly into the infected joint, and other antiphlogistic measures. The diet must be regulated to supply plenty of water. Bier's artificial hyperæmia has been successfully tried.

In the prevention of acute attacks, the latent primary and metastatic foci of infection must be sought and exterminated, and the intestinal tract kept disinfected. Natural sulphur-waters have long been found beneficial in this respect. They are particularly useful in the uric acid diathesis as they act as diuretics, while they spare the kidneys in other respects. The internal use of sulphur and guaiacum has recently been highly recommended by C. W. Hufeland, also hydrochloric acid, by Fal-

kenstein. Balneotherapy and all measures to stimulate metabolism are also useful aids in the breaking up and elimination of the deposits of urates. P. Roethlisberger (*Archiv für Verdauungskrankheiten*, Bd. xii., Nu. 3; *Journal of the American Medical Association*, July 28, 1906).

HEAD-NODDING WITH NYSTAGMUS IN INFANCY.

Three symptoms constitute the characteristic features of spasmus nutans—the head-nodding, the tendency to look out of the corner of the eyes, and the nystagmus. The rhythmic movement of the head is not necessarily anteroposterior. It occurs only when the child is sitting with the head unsupported, so that it is overlooked when the child is lying down. Head-rolling, which only occurs when the child is lying down, must be distinguished from spasmus nutans. Contrary to some observers, the writer has never seen the least tendency to epilepsy. Remarkable and characteristic is the habit the infants have of looking out of the corner of the eyes while the face is turned in the opposite direction and slightly downwards. The nystagmus is peculiar in certain respects: (1) It is almost invariably much more marked in one eye than in the other, which is a very rare condition apart from this disorder; (2) it comes on without apparent cause in an infant a few months old, and disappears completely within a few weeks or months. It may precede the head-shaking by several weeks.

The author regards the irritation of dentition as the usual exciting cause of spasmus nutans, but other forms of peripheral irritation may also act as exciting causes. The theory that it is due to living in ill-lighted dwellings seems

unsatisfactory to the author. The malady usually passes off after a few months, leaving no ill effects. There is a rare congenital permanent condition of nystagmus, with head-nodding, from which spasmodus nutans must be distinguished. Such children should be kept out of doors as much as possible, and attention paid to their general nutrition. The use of sedative drugs is sometimes followed by improvement. G. F. Still (*Lancet*, July 28, 1906).

HYPERACIDITY, TREATMENT OF.

It is recognized by the writer that hyperacidity is often associated with textural changes in the secretory apparatus of the stomach, and that one form of hyperchlorhydria is in reality the initial stage of a chronic glandular gastritis, and can be often diagnosed by the presence of an increased amount of mucus. Clinical observation shows the intimate connection which may exist between hyperchlorhydria and gastritis, and it appears that a marked irritability of the mucous membrane of the stomach may determine the onset of the symptoms of hyperacidity. The presence of a nervous form of hyperacidity is still more obvious. A good example of this form is the peracidity, or, more correctly, the hypersecretion, seen in the gastric crises of tabetic patients; but there are also cases which have their origin in functional disturbances merely of the stomach, and Cloetta's experiments on dogs, if the results can be carried over to human pathology, show that abnormalities of secretion can exist without the presence of any histological change. In practice it is not always easy to decide whether the case is one of organic or only functional change. The presence of motor disturbances of the stomach is in favor of organic change,

as is a history of abuse of alcohol, tobacco, etc. In a few cases the nature of the process is made clear by excessive secretion of mucus. From his own experience, the author would put down three-fourths of all cases of hyperacidity as early stages of catarrh.

Perhaps the most important part of the treatment is the prophylactic treatment. Regular meals, regulation of the temperature of the food and drink, avoidance of excess in eating, drinking, and smoking, are cardinal points; but they are, unfortunately, points which are almost always neglected. In treating the symptoms, also, the dietetic measures are those of most importance. Physiology shows the marked effect of the different foods upon the amount of hydrochloric acid secreted; when milk, bread, or other starchy substances are taken, this amount is small; when meat or meat-extracts are taken, it is large, and fats have a tendency to check secretion. Clinical observations support, to a certain extent, at least, these physiological investigations, although a fat-diet has not given as good results as might have been hoped, because of the strong distaste felt for it by the patients. Carbohydrates are the food best tolerated, but only when given in suitable form, suitably prepared.

The general line of treatment would, therefore, be to limit the amount of animal food, to increase the amount of carbohydrates, and to give fats freely as they can be borne, the carbohydrates chosen being easily assimilable and the fat free from fatty acids, and with a low melting point. Milk is the food which, more than all, spares the stomach, and a week's absolute milk-diet is good in cases in which there is any possibility of ulceration of the stomach being present. The liking of these patients for

pungent food is to be met by the most detailed instruction against spices, vinegar, etc. Salads are to be carefully prepared, as, for example, with olive-oil. Lactic acid and butyric acid are well borne; curdled milk or cream, buttermilk, and kefir often give rise to no symptoms. It is customary to forbid sweet substances; but while the cooked sweet foods often give rise to severe symptoms, pure sugar given in solution can be well taken. As far as fluid is concerned, white wines, and especially Moselle wine, are harmful, but good Bordeaux wine and the better varieties of red Rhine wines can often be taken. Coffee is almost always harmful, tea, almost always, and cocoa often harmless. The question of tobacco needs to be considered from each individual case. Mineral waters, especially those with weak carbonic acid contents, as the Fachinger, Vichy water, etc., are almost an essential part of the treatment. The author prescribes for his patients 200 to 300 grams of an alkaline water to be taken at each mealtime and the first thing in the morning. By such dietetic measures a speedy subjective improvement can usually be obtained, but no permanent objective changes of any importance. These measures are often also very difficult to carry out.

The next point is the treatment by drugs, and first of all by alkalies. It may be taken as certain, first, that alkalies used moderately do not have the injurious effect often ascribed to them by doctors and still more by laymen; and, secondly, that alkalies in the treatment of symptoms far surpass all other agencies; but, on the other hand, it is not certain that the immoderate use of alkalies does not increase the symptoms, and experience shows that alkalies properly used, while mitigating the symp-

toms, are not able fully to remove them. Sodium bicarbonate has the disadvantage of giving rise to the development in the stomach, of large quantities of CO_2 , which may lead in time to distension of the stomach. Some form of alkali is therefore to be preferred without this disadvantage, and the author has used for many years sodium citrate in preference to the bicarbonate. Where constipation is present the use of magnesia can be combined with that of sodium citrate, and the author has found the triple phosphate or the magnesium citrate useful. He observes the following rules in the administration of alkalies: (1) the smaller the meal, the smaller the dose of the alkali needed; (2) the alkali is to be given at the height of digestion, and, as a rule, only one dose, or if two heavy meals are taken, two doses per day are required. Other drugs to be considered are atropine, scopolamine, and eurydine. By the use of atropine the amount of the gastric secretions can be temporarily diminished, and it has one advantage over the alkalies, in that it never causes an initial rise in the amount of the secretion. On the other hand, there is always a danger of the development of toxic symptoms when atropine is used, and its long administration is therefore contraindicated. Scopolamine is still on its trial, and the author has not any personal experience of it; eurydine he has tried and found useful. In conclusion, the author emphasizes the importance of not driving drug-treatment too far and of avoiding irritation of the stomach. A dietetic treatment carefully planned to suit the individual case remains always the most important consideration. I. Boas (*Therapeutische Monats.*, May, 1906; *British Medical Journal*, August 18, 1906).

INFANT DIET IN SUMMER.

In warm weather a light, woolen garment should be kept over the abdomen, to prevent sudden chilling of the skin and consequent retention of heat by suppression of perspiration. The infant should be bathed twice daily, to remove fat and salts left by the evaporated sweat. These retard the evaporation of perspiration and thus partially prevent heat-excretion. Plenty of cool, boiled water should be given to drink, so as to replace the water lost as perspiration. The food of all well infants should be pasteurized, to retard decomposition. If the weather is close or muggy, or the humidity is high, the food should be diluted to one-half with boiled water. In very humid weather, with high temperature, the milk should be stopped altogether and gruels fed until the humid condition is past. On warm, humid nights, milk-feedings should not be given, because the humidity is higher at night than in the daytime, although the temperature may be lower. Gruels or whey, which produce little heat, should be fed.

For diarrhoea, castor oil or calomel should be given to eliminate decomposing food. All milk-feedings should be stopped temporarily. If the air is hot, but dry, milk-feedings may be resumed soon. If there is high humidity, gruels or whey should be fed to reduce heat-production and also to starve out putrefactive bacteria, milk-feedings being very cautiously resumed. A circulation of air must be provided, as stagnant air soon becomes saturated with water-vapor, and no more perspiration can evaporate and absorb heat. G. R. Pisek (*Journal of the American Medical Association*, August 11, 1906).

INFANTILE DIARRHOEA, TREATMENT OF.

When the diarrhoea is due to a toxæmia, the writer begins treatment with castor oil, or, if much vomiting is present, fractional doses of calomel, one-sixth grain every hour until one grain is given. In mild cases, boiled water given by the mouth usually rapidly cleanses the stomach by being vomited; if vomiting persists, lavage must be resorted to. Irrigation of the colon is of advantage in every case. It should be done every twelve hours with a gallon of normal salt solution, at a temperature of about 100° F. Strychnine, $\frac{1}{200}$ of a grain, repeated in three hours, is of advantage in the worst cases. Hypodermoclysis, eight ounces of sterile salt solution, repeated in twelve hours, is also beneficial in tiding the desperate case over a critical period. High temperatures are controlled by ice-water enemata, one pint being used. Whiskey, opium in the form of morphine or paregoric, may be given as indicated. Subnitrate of bismuth, in mucilage of acacia and peppermint water, is excellent in controlling the diarrhoea.

When this is due to inflammation of the intestinal mucosa, hygienic and dietetic treatment are indicated. It is important to supervise the child's diet for a long while after convalescence is apparently established. Castor oil or calomel should be given in sufficient doses to sweep out the food and decomposed material thoroughly from the gastro-intestinal tract. Rectal irrigation with normal salt solution is of benefit in almost every case. Subnitrate of bismuth, in ten-grain doses, every two hours, should be given continuously during the entire course of the disease. If tenesmus is present, laudanum, four drops in four ounces of starch-water,

may be used as an enema. Stimulants will be required in the majority of cases. Opium is required in all but the mildest cases. E. E. Graham (*Therapeutic Gazette*, July 15, 1906).

INFANTILE SCORBUTUS.

The writer states that the onset of infantile scorbutus is almost limited to the later half of the first year of life, and in three-fourths of the cases the disease begins between the ages of six and ten months. A history of tenderness in the limbs in an infant between those ages should at once suggest scurvy. The onset of scurvy is probably never really sudden, but the more pronounced symptoms may appear quite suddenly. Among the preliminary insidious symptoms are failure of appetite, loss of weight, and fretfulness. The most striking feature of the disease is the tenderness of the limbs and loss of movement. These symptoms occur much more often in the lower limbs than in the upper. With the tenderness there is sometimes associated some visible or palpable swelling of the affected limb. As this is the result chiefly of subperiosteal hæmorrhage, it may be detected only by careful palpation of the bone as a vague, deep thickening. It is not limited to the epiphyseal region, but extends some distance along the shaft. The loss of movement in the affected limb is so marked that the disease has been mistaken for infantile paralysis. This is due to pain, to infiltration of the muscles in severe cases, and occasionally to separation of the epiphyses by extensive hæmorrhage at the epiphyseal line. Œdema occasionally occurs over the thickened part of the limbs, thus suggesting suppurative periostitis. The gums are not always swollen or discolored; there

may only be a thin, purple line at the free edge of the gum. Very rarely the gums are markedly affected when there is no other obvious symptom of scurvy. A not infrequent manifestation is hæmorrhage into the mucous membrane of the hard palate. The discoloration occupies the middle part of the vault, and varies in color from bright red to purplish black. "Black eye" in an infant, without a history of traumatism, should suggest scurvy.

The diagnostic importance of the urine is very great: Urinary changes are more constant than gum-affections. But while blood is often present, yet in many the amount is so small that it can only be demonstrated by the microscope. Fever in infantile scorbutus, although rather the exception than the rule, is by no means a rarity.

There are few diseases in which the effect of treatment is so striking as in infantile scorbutus; under efficient antiscorbutic diet, the tenderness and pain on movement are lessened within forty-eight hours. Indeed, failure to improve on proper diet within four days should throw doubt on the diagnosis of scurvy. But the other symptoms persist much longer; the deep thickening, if extensive, may remain for two or three weeks. G. F. Still (*British Medical Journal*, July 28, 1906).

INFLAMMATIONS, SUPERFICIAL, HOT BATHS IN.

The writer reports his success with the old hot-bath treatment. He has treated 330 workingmen with various injuries of the soft parts, felons, furuncles, and phlegmons, with the systematic use of local hot baths. He orders the patient to put the hand, arm, foot, or leg in water as hot as can be borne, and to keep it

in water for from half an hour to an hour, pouring in hot water from time to time to keep the temperature at about the same point. This procedure is to be repeated several times a day. A little soda, about a tablespoonful to a quart of water, is added. He believes that the principle of this treatment is about the same as that of the Bier method, attracting the blood more actively to the parts to aid in combating the local infection. The results have been extremely satisfactory. Pus was evacuated by an incision at the proper time. Richter (*Münchener medicinische Wochenschrift*, Bd. liii., Nu. 15; *Journal of the American Medical Association*, July 28, 1906).

IRIS, LEUCOSARCOMA OF THE.

Ribbert's theory of the origin of all uveal sarcomas from chromatophores is worthy of most careful further consideration. The analogy between the round, spindle, and star-formed cells, which proliferate in sarcoma, and the spindle and star-formed cells found in the embryonic choroid, is incomplete, because a round-cell first stage has not been proved to exist in the latter. It is more reasonable to suppose that the "cell reversion" takes place to any one of these forms of sarcoma, analogous to the relations which obtain between embryonal and pathologic conditions in glioma, than it is to suppose that lower cell-forms are transformed into higher cell-forms (Borst). So-called leucosarcoma of the iris offers a more favorable opportunity for the study of the chromatophore theory than does sarcoma of the choroid, because here the normal chromatophore is much less heavily pigmented than in the normal choroid, or than the chromatophore in the iris. Pressure, too, destroys the normal cell. The term

leucosarcoma should be retained, but used only in reference to the clinical appearance of iris sarcoma. E. V. L. Brown (*Journal of the American Medical Association*, August 11, 1906).

JAUNDICE, DIAGNOSIS OF SURGICAL DISEASES ATTENDED WITH.

The staining of the skin and mucous membranes with the coloring-matter of the bile or its derivatives results either when the bile-ducts are obstructed, or when there is an excessive destruction of red blood-cells in the liver. In the former instance the bile stagnates in the biliary capillaries of the liver, when it is reabsorbed into the blood, and so gives rise to obstructive jaundice; and in the latter case the liver elaborates the hæmoglobin that is set free by the excessive hæmolysis into bile pigments, which, being secreted into the biliary capillaries in greater amount than can be passed on by them into the larger bile-ducts, is partly absorbed into the circulation, and thus occasions hæmopathogenous jaundice. Simple as is this pathogenesis of icterus, so complex and varied are the diseases that provoke it. The more important surgical diseases of which one of the symptoms is an acute jaundice are liver abscesses; suppuration within the liver viscus as single tropical abscess; and the acute or multiple abscess, enlargement of the liver. The enlarged liver, the distended, tender gall-bladder, the thickened, swollen ducts, and the infected dark, viscid bile, together with the acute onset of high fever, nausea, vomiting, pain in the epigastric and right hypochondriac regions, and jaundice, indicate an acute infectious cholangitis. Acute inflammations and distension of the gall-bladder secondary to calculous disease are attended with jaundice when the distended en-

larged viscus compresses the common bile-duct, or when there is also present a complicating cholangitis. Syphiloma or gumma of the liver, when they break down, are sometimes attended with acutely developing jaundice. But probably the most frequent surgical causes are bacterial infections, and the administration of ether and chloroform. A. Berg (Medical Record, August, 1906)

LARYNGEAL CANCER.

The patient with cancer of the larynx must have his disease discovered early, else a cure is well-nigh hopeless. If discovered early, the comparatively slight operation of thyrotomy will cure. If discovered late, however, total or partial laryngectomy will probably prolong life for a variable period, but recurrence is fairly certain, and the short extension of existence lacks many pleasures and comforts.

The early, curable stages of laryngeal cancer are characterized by nothing but the hoarseness, which may disappear and recur. Cough, odor, pain, odynophagia, glandular involvement, external swelling, emaciation, cachexia, etc., are present only after the curable stage is passed. In the curable case the patient may come in "to get something for a cold that he cannot shake off," without any idea of a serious condition, and throw the physician off his guard.

In conclusion the writer begs to say that, while the surgery of malignant disease is discouraging, it is, in the larynx, only so when seen late. In the early thyrotomized cases the prognosis as to cure is better than in chronic laryngitis. The frequently malign nature of chronic hoarseness should be borne in mind. Chevalier Jackson (Pennsylvania Medical Journal, July, 1906).

MALARIA, SPLENIC EXTRACT IN.

Splenic extract has been found by the writer to be a real remedy for malarial infection. Being an organic preparation, it is necessary to take special care that it does not spoil either in the hands of the druggist or the patient. The best way to prescribe it is in the form of powder enclosed in capsules. Splenic extract produces the beneficial effects of quinine in malarial infections, without any of its bad effects. The writer has used splenic extract in fifteen cases. Red bone-marrow was given the preference as a hæmatinic. Its effects began soon after its administration, and the splenic extract, which was before powerless to do its work, immediately began to act. When administration of the splenic extract follows that of the red bone-marrow, the physiologic resistance or cure of the disease appears. C. R. Carpenter (Medical Record, August 4, 1906).

MASTOID OPERATIONS.

The immediate object of a mastoid operation is the production of a more or less conical opening in the mastoid process, the base of the cone being at the cortex or outer shell of the bone; the apex, at the largest of the mastoid cells, the so-called antrum. The ultimate object is to relieve a mastoiditis, suppurative or nonsuppurative; specific, simple, traumatic; acute, subacute, or chronic. The kind of operation done will vary according only to the acuteness or the chronicity. If the disease is acute, the Schwartze operation will be done; if chronic, the Staacke.

In operating, certain dangers should be borne in mind. If we go too far backward, we shall reach the lateral sinus; if too far forward, the middle lobe of the brain; if too deeply inward, the

facial nerve or the horizontal semicircular canal. It should therefore be generally attempted to reach the antrum by the directest possible route, and to stop when the cavity is reached.

If, in addition to mastoiditis, there is a cerebral abscess, it should be evacuated by the use of the trephine, the rongeur, the probe, and the knife. If there be sinus thrombosis, the vein should be incised and the clot evacuated, following the vein, if necessary for this purpose, clear down into the neck. T. H. Shastid (*American Medicine*, August, 1906).

MENTAL DISEASES, MENSTRUAL FUNCTION AND.

The frequency of menstrual disorder in patients of unsound mind is recorded by numerous authors, and considerable discussion, as to the relation in point of time between the onset of one disorder and that of the other, shows that the usual course is for both to begin at about the same time. The menstrual irregularity usually persists at least as long as the accompanying psychopathy; and when menstruation becomes regular and normal before the mental functions are restored, the prognosis as to restitution of mental health is bad. The author's own observations tend to show that psychopathic disorders of menstruation very seldom take the form of pain, and seldom that of amenorrhœa, but consist usually of some kind of irregularity, especially in the time of onset. On the other hand, menstruation usually determines an exacerbation of symptoms in the mentally unsound. These exacerbations are usually pre-menstrual or post-menstrual; but in the periodic insanities and in mental disease connected with arrested development, the exacerbations are co-

incident with the onset of menstruation. Aggravation of mental symptoms at the beginning of the period usually lasts throughout it, or even into the next interval; but pre-menstrual exacerbations usually reach their height the day before menstruation begins, and cease when the flow is established.

Taking the different forms of mental disease in order, the writer states that in the periodic psychoses a connection between mental and menstrual conditions is common, but not invariable, and numerous authorities are quoted. He himself considers menstrual psychoses, properly so-called, include only those recurring rhythmically with the monthly period. In such cases hereditary predisposition is almost constant. The diagnosis rests on the following points: neuropathic constitution of the patient, onset of the disease at the time of puberty, variable duration of the paroxysms, and either perfectly lucid intervals, or intervals marked only by slight psychical depression.

The prognosis is doubtful; the result is usually favorable. The clinical manifestations of hysteria are under the influence of functional dynamic disturbances of the nervous system, of which menstruation is a consequence only. In chronic psychoses the author suggests that some prognostic use may be made of the fact that periodic oscillations of temperature, pulse, and respiration occur in primary chronic amenorrhœa, showing that the menstrual flow is only one part of menstruation. The relation between psychopathy and menstrual disorder is especially well seen in the psychoses of intoxication, infection, and exhaustion, because both are effects of the same cause, as, for example, anæmia, alcoholism, or pellagra. By some authors a function of elimination has

been ascribed to metrorrhagia, because the free loss of blood may appear to cause a lucid interval. Chronic psychoses are only slightly influenced by menstruation, and have little apparent effect on it. In conditions of arrested development the regularity of menstruation is in relation to the extent of development. A. Salerni (*Il Policlinico*, April, 1906; *British Medical Journal*, July 28, 1906).

MYELITIS.

True myelitis, meaning by the term an inflammation of the spinal cord, is a rare malady. Much of what is spoken of as myelitis is in reality a softening of the spinal cord, consequent upon vascular occlusion, in which inflammation plays no part; except it be that some inflammatory process in connection with the walls of the blood-vessels permits of the thrombosis, or clotting, which results in the cutting off of the blood-supply from some area of the cord, which results in softening. In true myelitis there is round-cell infiltration, engorgement of vessels, and in many places actual hæmorrhages. In softening, only degenerative changes are seen.

As for chronic myelitis—a slow, progressive inflammation of the spinal cord—the writer holds that no such thing exists. Cold, rheumatism, or gout, has no power to start an interstitial, slowly-progressive inflammation in the connective tissue of the cord. Prognosis is most uncertain in true myelitis; seemingly hopeless cases recover under appropriate treatment. Irrespective of whether the patient be suffering from syphilis or not, there is no treatment that can compare with mercury. Mercurial inunctions are to be preferred to oral administration; in acute cases, mercurial injections may be highly desir-

able. The inunctions should be given along the spinal column. J. S. R. Russell (*Lancet*, July 7, 1906).

NEPHRITIS, CHRONIC, PROGNOSIS OF IN THE YOUNG.

The writer speaks of the alarm which is usually caused by this disease in young persons, for with them the convoluted tubes, glomeruli, and interstitial tissues are all affected. Dilute urine in these cases is glomerular urine, and this usually means rise of blood-pressure and fibrosis of the kidney. Death in these cases may be from exhaustion with dropsy and convulsions, or there may be convulsions and no œdema. The kidneys in the one case are large and pale, in the other are contracted and granular. Nephritis is a disease of temperate climates, especially of those in which the variations are sudden and great. A dry, sunny, and warm climate is most suitable for patients with this disease. Diet is of great importance. Meat is not believed by the author to be harmful, alcohol and condiments need not be foresworn altogether. Appetite is the chief thing to be encouraged, but it is always advisable that no more should be eaten than can be assimilated. As to the mode of life, one must not get fatigued, chilled, nor wet. Pleasures may be taken in moderation, and there should be abundance of fresh air and exercise. W. C. Herringham (*Edinburgh Medical Journal*, July, 1906).

PSORIASIS, SUN-BATHS IN.

The writer has been very successful with sun-baths in the treatment of psoriasis, and as a preventive against its recurrence. The patient lies exposed, the head shaded, for from twenty to fifty minutes. The effect is enhanced by giv-

ing the sun-bath in an open box, to exclude the cold air and to keep in the warmth. The scales drop off, and the effect of the sun on the exposed corium is distinctly curative. The patient takes a cold douche afterward and goes for a short walk. M. Guhr (*Berliner klinische Wochenschrift*, Bd. xliii., Nu. 17; *Journal of the American Medical Association*, August 4, 1906).

PUERPERAL INFECTION, TREATMENT OF.

In puerperal infection the prophylactic treatment is most important. Antepartum vaginal douches are harmful in a normal case. Only when gonorrhœal infection or a purulent sinus exists, are 1-5000 bichloride douches of value. The proper preparation of the vulva is essential—shaving, cleaning with soap and water, alcohol, sublimate solution, and lysol should be regularly employed, and should include the thighs and anal region. Sterile gloves worn by the obstetrician, after careful disinfection of the hands, are an additional safeguard, especially in private practice.

Before treating of actual infections, it must not be forgotten that other conditions may cause a rise in temperature. Of these, appendicitis, pyelitis, "milk fever" from overfilled breasts, "reactionary" temperature after protracted labor, etc., may be present, or may coexist with a genital infection. Of the infections of the parturient canal, toxæmia caused by the products of putrefactive bacteria, or by the toxins of distinctively pathogenic bacteria, must be distinguished. This is a localized process, and the only one, with one exception, in which intra-uterine treatment is of value. Bacteræmia is a generalized process, in which the germs circulate in the blood. Here intra-uterine treatment, in the form of a gentle douche,

will do good only in the cases in which a superficial necrosis (a pseudomembrane) forms. The best rule is to consider all cases toxæmic until the contrary is proven. Manipulation usually increases the rise of temperature; therefore interference should be conservative. After emptying the bowels and excluding the breasts as a cause for fever, a gentle douche of saline solution is the best means of cleansing the uterus. The cervix should be exposed, the vagina irrigated, and then a double-current catheter passed, by sight, into the uterine cavity. If the douche brings away debris but the temperature persists, the author explores with the finger or very gently with the curette. No more than one douche each day should be given. Sometimes fever is caused late in the second week by retained lochia, due to ante flexion or retroflexion; here a hot vaginal or intra-uterine douche relieves the trouble.

In bacteræmia, which is best diagnosed by finding the treatment of toxæmia fruitless, and by the appearance of a pseudomembrane on the cervix or on vaginal abrasions, treatment should be directed toward improving the general condition. Locally we should content ourselves with ascertaining that no accumulation of pseudomembrane occurs (by giving gentle intra-uterine douches). Alcohol and strychnine have proven of greatest value among the drugs; an ice-bag over the fundus, with or without drugs favoring uterine contraction, seems of value; unguentum Crédé and injections of collargol may be of use, but their effect is difficult to judge. A large saline enema occasionally is of use. Antistreptococcic serum has proven a great disappointment.

Radical pelvic operation is indicated only in the rare instances in which the

uterus is studded with abscesses. In cases of toxæmia, operation is not justified; in bacteræmia it does not reach the bacteria in the blood, and it greatly reduces the patient's general resistance. Pyosalpinx late in the puerperium may require removal. In cases of general suppurative peritonitis the writer has been unable to save a single case by operation. Pelvic cellulitis subsides of its own accord, or, if suppuration takes place, the abscess can be opened per vaginam. E. B. Cragin (*American Journal of Obstetrics*, June, 1906; *American Journal of Surgery*, July, 1906).

PUERPERAL LUMBAR NEURITIS.

This form of neuritis was observed by the writer in 32 out of 680 parturients at Leopold Meyer's maternity at Copenhagen. The symptoms were tenderness of the nerves of the leg, paresis, pains, hyperæsthesia of the skin, and in some cases exaggeration of the knee-jerk. The symptoms observed indicate that this extremely severe puerperal lumbar neuritis is due to puerperal intoxication, inducing transient inflammation of the nerves connected with the lumbar plexus. The affection and pains originate from, or are aggravated by, various occasional causes. The pains and heaviness in the legs are seldom mentioned by the patients, as they assume them to be part of the phenomena of childbirth. The neuritis can be differentiated from phlebitis by the fact that with the latter the tenderness is more toward Scarpa's triangle than in case of neuritis; fever and œdema are usually observed, and the swollen veins can be palpated. With phlebitis there is nothing like the radiating pains extending along the inflamed nerves, nor the superficial hyperæsthesia, nor the ten-

derness at the merging points of the nerves. The neuritis subsides completely in from four to eight days, as a rule, although it has been known to last for three weeks. Electrotherapy is not necessary. Boers has witnessed good results from blisters. Basedow recommends bandaging the limb, and Krieg gives ergot. Hauch (*Zeitschrift für Geb. und Gynäkologie*, Bd. lvii., Nu. 2; *Journal of the American Medical Association*, July 28, 1906).

PULMONARY TUBERCULOSIS, HYPERÆMIA TREATMENT OF.

The writer states that the attempt to overcome pulmonary tuberculosis by the artificial production of hyperæmia of the lungs is based on rational grounds. The only means by which hyperæmia may be secured is through stasis. The simplest method by which this can be produced is by the position, the thorax being placed at a low level, with the head moderately and the limbs considerably elevated. The daily maintenance of this position is gradually increased to as long as possible. Even at night the upper part of the body should not be elevated. This method, however, is absolutely contraindicated by a tendency to hæmorrhage. Whether other means of producing hyperæmia, such as Bier's apparatus, are of therapeutical value in this connection must be determined by further observations. The same is true regarding the combination of this treatment with the administration of tuberculin. H. Leo (*Berliner klinische Wochenschrift*, July 2, 1906; *New York Medical Journal*, August 4, 1906).

RABIES, ACTION OF RADIUM IN.

The latest results of his extensive researches with radium in the treatment

and prevention of rabies are reported by the author. He has previously announced that it neutralizes the rabies virus in the test-tube and in animals, even when the disease is already established, and that it induces radioactivity in the brain of the animal under treatment. He has found lately that the length of time required for the neutralizing of the virus varies with the kind of tissue. It only requires two hours when the virus is injected into the anterior chamber of the eye, while six hours are necessary when the injection is made under the dura mater. The neutralized virus does not regain its virulence later. The emanations have very little penetrating power, and they affect the virus more in proportion to the length of the exposure rather than by the number of radioactive units represented by the specimen of radium. An interesting fact is that only the brain of the living animal becomes radioactive. Dead tissues are inert. The radioactivity is demonstrated with sensitized plates, and it seems to occur only in brain-tissue, and most effectually through the eye. It was never detected in animals after the eye had been removed. The phenomena observed confirm the dual action of radium: the chemical action of the emanations on the virus in the test-tube, and the physical energy of the radiations which elicit vital phenomena in response. Tizzoni (*Riforma Medica*, Vol. xxii., No. 19; *Journal of the American Medical Association*, August 18, 1906).

RINGWORM, TREATMENT OF.

The use of the x-ray as an epilating agent is recommended by the writer in the treatment of ringworm; but as the rays have no lethal effect on the parasite, merely bringing out the hairs with

the fundus, the rest of the scalp must be protected against infection from the falling hairs. The direct current of 240 volts is used, each coil being wound for the voltage used. The ampèremeter is at 5. A tube with penetration corresponding to No. 6 or 7 on Benoist's scale is the most used one. The best results are obtained with a spark-gap of from 12 to 15 centimeters. The current in the secondary is kept at about 0.7 mp. The hair is cut short, and the infected area is exposed for a definite time to the rays at a distance of 15 centimeters from the anode of the tube. With the interrupter marking 500 interruptions a minute, and the conditions as above described, sixteen minutes is sufficient to cause complete epilation of the area exposed. The exposure is controlled by the Sabouraud pastille. This little disk, coated with platinocyanide of barium, is placed midway between the anode of the tube and the area under treatment. When a sufficient dose of x-rays has been given to produce epilation, the pastille changes from a yellowish-green tint to an orange. It is a useful adjunct in estimating the dose of x-rays, and, though there is some variation in the pastilles, the writer has found them of great value in checking the dosage. It is essential that the pastille be placed exactly midway between the anode and the area treated, and that it be not exposed to light, for the orange tint vanishes on exposure to strong light. At the end of the sitting the area which has been treated is covered with collodion and the patient goes home. Collodion is painted on to prevent the rest of the scalp from becoming infected. At the end of a fortnight the hair begins to fall out, and at the end of three weeks it is com-

pletely shed. J. H. Sequeira (British Medical Journal, July 28, 1906).

SLEEPLESSNESS, TREATMENT OF.

In the prevention and cure of sleeplessness, the writer states that the object of treatment should be the removal of the obstacle to sleep; not simply to compel sleep, while leaving the disturbing influence in operation, and perhaps working harm in other ways. Thus, when sleeplessness is due to pain, morphine is given to relieve the pain, sleep following as a consequence. So in itching of the skin, a sedative lotion is applied, and the obstacle to sleep removed. When high arterial tension causes sleeplessness, a mercurial aperient is indicated, also careful regulation of the diet, and occasional use of chloral. In pyrexia, especially with low pulse-tension, the tonic effect of cold-sponging will often induce sleep. With low-tension sleeplessness one will often fall asleep in a chair, but will be wide awake as soon as he lies down. The remedy is not a narcotic, but a cardiovascular tonic. The most common cause of sleeplessness is gastrointestinal derangement. Treatment means simplification of diet, prevention of dilatation and fermentation, and the use of salol, naphthol, creosote, carbolic acid, sulphocarbolates, or calomel. A caution is sounded against the use of sedatives and narcotics in the young. W. Broadbent (Practitioner, July, 1906).

SURGICAL TUBERCULOSIS, TREATMENT OF.

In all cases of surgical tuberculosis, "open-air treatment" should be organized to meet the circumstances and requirements of the particular case. In every case the patient's powers of resistance to the disease should be period-

ically measured by suitable blood-examination. Where the resistance is found low and there is no evidence of an excessive autoinoculation, use should be made of therapeutic inoculations of Koch's new tuberculin in doses that are accurately controlled, both as regards their amount and repetition, by examination of the blood. In cases where there is evidence of excessive autoinoculation absolute rest, with complete fixity of the diseased part, should be prescribed.

In cases where it is evident that the diseased area is circumscribed and practically cut off from the circulation of tissue fluids, efforts should be made to improve the circulation through the diseased area. This may be obtained by fomentations, the use of certain mild irritants, *e.g.*, liniment of iodine and Scott's dressing, light therapy, general massage, and local massage with carefully regulated movements. Operative procedures should be directed to the removal of the dead, inert material, whether pieces of bone or collections of pus, and should be conducted with the most scrupulous aseptic precautions. V. W. Low (Lancet, July 14, 1906).

SYPHILIS ASSOCIATED WITH PULMONARY TUBERCULOSIS.

The author states that pulmonary tuberculosis is often held responsible for too many manifestations of disease which are due to other causes. The fact that a patient has tuberculosis should not be an excuse for disregarding these conditions, which often have a decided influence upon the prognosis and cause much avoidable discomfort. Syphilis is a common disease, and physical debility combined with worry and mental distress, which may accompany tuberculosis, may arouse a latent syphilitic taint. The association of the two

morbid conditions may be disguised and the symptoms confused. Furthermore, many of the manifestations of syphilis are quite similar to those produced by tuberculosis.

The diagnosis of syphilis, in connection with tuberculosis, will require close scrutiny, and often the therapeutic test. Persistent fever above 99.5° in incipient cases of tuberculosis, when the lesion is slight and the general condition not much impaired, and when rest with proper treatment for a period of three or more weeks fails to secure amelioration, should be viewed with suspicion and the possibility of associated syphilis thoughtfully considered. This is also true when a typical pneumonia or intractable subacute bronchitis supervenes.

It is questionable at least if the prognosis in tuberculosis of the lung of an incipient type is rendered any more unfavorable when syphilis, particularly of the tertiary form, is also actively present. The improvement in the tuberculous case following anti-syphilitic treatment is most marked, and at times surprising. This is particularly noticeable in reference to the prompt and decided drop in temperature.

The writer remarks that unless his experience has been very unusual, he has found syphilis to be more often associated with pulmonary tuberculosis than the paucity of the literature upon the subject would indicate. The concurrence of the two diseases must be more common in hospital, dispensary, and sanatorium practice than is assumed by most authorities. J. H. Pryor (*Medical Record*, July 21, 1906).

TUBERCULOSIS IN CHILDREN.

The writer considers that tuberculosis is the most common and most

fatal disease in infancy and childhood. In infancy, whatever be the seat of primary infection, it tends to become quickly generalized; tuberculosis of the lung in infants is almost always associated with tuberculosis of other organs. Beginning with the first year of life, the bronchial lymph-glands and lungs are most often affected. With the third year tuberculosis of bones, cervical glands, peritoneum, and intestines becomes more frequent. After the sixth or seventh year—second dentition—the pathological processes tend to resemble those of adults.

Infection of the bronchial lymphatic glands is a usual halfway house between the passage of the tubercle bacilli through the mucous membrane of the respiratory passages and their invasion of the lung-substance. The lung is infected before the bronchial glands more often than is usually supposed. Other points of entry of the bacilli are the tonsils, the adenoid tissue at the back of the naso-pharynx, and the ear—especially when there is inflammation. Children are peculiarly susceptible to unhygienic conditions; the influence of overcrowding, dirt, neglect, and improper food, is very great.

Pulmonary tuberculosis in children may be divided into the infantile and adult types. The former consists of a miliary tuberculosis of the lungs and pleura. Tuberculous bronchopneumonia is also common in infants. In the adult type tuberculosis takes a form in all respects similar to that in the child. But the base of the lung is more often primarily attacked, and the signs are often first noted about the root of the lung in the mammary region—*i.e.*, the disease has spread from a caseating bronchial gland. Cough may be absent or slight. Children under seven years

of age rarely expectorate. Hæmoptysis is uncommon in children, as is shortness of breath. The physical signs are often most indefinite and the diagnosis may be very difficult. The x-rays may disclose some consolidation of the lung not made out on physical examination. The writer considers the use of tuberculin for diagnostic purposes risky, and has discontinued its use. The prognosis must always be guarded, yet there is good evidence that recovery from tuberculosis is not infrequent, even in infancy. The younger the child, the more grave the outlook.

As regards treatment, the most important requirement is to put the child under proper hygienic conditions. Life in the open air, good and sufficient food, cleanliness, and a proper amount of rest and sleep, are the essentials. In all but acute cases children are better off for having lessons; they are much better off not kept in bed unless the fever is high and the weakness extreme. J. E. Squire (British Medical Journal, July 21, 1906).

TYPHOID NODULAR COLITIS.

Typhoid intestinal lesions limited to the colon are very rare. The term "nodular colitis" should be restricted to such cases as show a marked infiltration of the submucosa with wandering cells, giving rise to prominent isolated nodules having no relation to the solitary follicles, which are comparatively unaffected. These cases are of rare occurrence. The term "lymphatic hyperplasia" may be used to describe the cases showing a simple hyperplasia of the solitary follicles of the intestines and a relatively normal submucosa. These cases are commonly found at autopsy. G. H.

Whipple (Johns Hopkins Hospital Bulletin, August, 1906).

VESICAL FISTULÆ, TECHNIQUE OF REPAIR OF LARGE.

The basic principle in the repair of the large fistulæ is an extensive separation of the bladder-wall, especially of the upper part in front of the cervix, by means of which it is readily sutured to the more fixed lower portion. The uterus, which has been made movable by the free dissection entailed in the separation of the bladder, or by an additional incision posteriorly in some cases, is a most valuable supplement in filling up the opening in the vaginal wall. With these principles applied, it is a matter of little importance what kind of suture material is used, or what relation the vesical and vaginal suture lines have to each other. W. S. Stone (Surgery, Gynæcology, and Obstetrics, July, 1906).

WHOOPIING COUGH, ADENOIDS AND.

The author removed adenoid growths from the throats of two children affected with whooping cough, and saw a rapid improvement in the cough almost immediately after the operations. According to his view, pertussis is a local infection of the pharynx which gives rise to phenomena of intoxication due to the absorption of poisons from the germs so located into the general system. To remove the nest of germs, therefore, is rational treatment, and hence the curetting of adenoids is bound to have a beneficial effect in pertussis. Luigi Chierici (Gazzetta degli Ospedali e delle Cliniche, July 22, 1906; New York Medical Journal, August 25, 1906).

Books and Monographs Received.

The Editor begs to acknowledge, with thanks, the receipt of the following books and monographs:—

"Index-catalogue of the Library of the Surgeon General's Office United States Army. Second Series. Vol. XI. Mo-Nyström." Washington, D. C. 1906.—"Transactions of the Grant College Medical Society, Bombay, India." From March, 1905, to February, 1906.—"Choice of Methods in the Treatment of Operable Cases of Cancer." By G. Betton Massey, Philadelphia, 1906.—"Carbon-dioxide Gas Retention as a Frequent Factor of Disease." By Louis Bradford Couch, Nyack, N. Y., 1906.—"Surdité and Infection Eczémateuse." Par le Dr. Marcel Natier, Paris.—"The Glandular Power and Significance of the Epithelium of the Convoluted Tubules of the Kidney, and the Therapeutic Value of their Products Soluble in Water." By M. J. Renaut, Lyons. Translated by Frank Abbott and Alexis Law-Gisiko, New York.—"Modern Phthisio-genetic and Phthisio-therapeutic Problems in Historical Illumination." By E. von Behring, Marburg, Germany. 1905.—"The Significance and Diagnosis of Uterine Hæmorrhage." By John A. McGlinn, Philadelphia, 1905.

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Sajous's Analytical Cyclopædia of Practical Medicine.

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Editorials.

DEPARTMENT IN CHARGE OF
J. MADISON TAYLOR, A.M., M.D.

ON THE BLOOD-GLANDS AS PATHOGENIC FACTORS IN THE PRODUCTION OF DIABETES AND OBESITY.

III.

ON THE RELATION OF THE BLOOD-GLANDS TO OBESITY.

It has long been known that domesticated animals are fattened by removal of the sexual glands. The same is true of the human subject, both male and female. The explanation of this, according to Loewy and Richter,³⁶ is that diminished

oxidation ensues. The same result follows removal or disease of the thyroid. That oxidation is diminished in myxœdema has been shown by Magnus Levy,⁹⁵ who has also shown that it is increased in Graves's disease. Removal of the thyroid leads to obesity. In animals there follows a mucinous and fatty infiltration of the subcutaneous connective tissue. Hertoghe has lately observed that a young bull put on 20 kilos in a few months after thyroidectomy; the same author has made a like observation on the horse.

So, too, clinically, in the early stages of myxœdema there is often a considerable degree of obesity associated with the formation of fatty tumors. In fat pigs Lanz⁹³ has found atrophy of the thyroid. Abrikosow⁹⁴ has recently described a case of myxœdema in a woman, aged 52 years, in whom the obesity was extreme, and in whom after death fat was found in the submucous tissue of the intestine and mucous membrane of the tongue. Bourneville and Lemaire⁹⁵ have described cases of dwarfing associated with athyroidea and marked obesity. Complete athyroidea is somewhat rare, but an advanced destruction and degeneration of the thyroid is, I think, common. The work of Blum,⁹⁶ Breisacher,⁹⁷ and Kishi,⁹⁸ shows that the thyroid acts as a deintoxicatory organ against the poisons arising from the decomposition of proteid food. The degeneration may be slowly progressive. The progress of myxœdema may be very insidious and slow, like that of other diseases arising from lesions of the blood-glands.

According to the number of vesicles of the thyroid affected there will be different degrees or forms of myxœdema. Reverdin,⁹⁹ Combe, Chantemesse, and Marie have described "myxœdema fruste," and Hertoghe a "hypothyroidie benigne chronique" to the symptoms of which obesity belongs. In his classical work on myxœdema George Murray gives the picture of a myxœdematous woman affected with obesity. Brissaud distinguishes a partial myxœdema; Marfan and Guinon¹⁰⁰ have published the case of a child with partial myxœdema and extreme obesity. An instructive case has been recorded by Schrötter,⁹⁸ of Vienna, in a woman suffering from Graves's disease, in whom the upper part of the body was emaciated and pigmented, whilst the lower part was highly obese; simultaneously there were present other marks of myxœdema, such as desquamation of the skin on the eyebrows; the thyroid felt as if partially fibrous. This case was, I believe, one of transition of myxœdema. Such have been described by Kowalewski,¹⁰¹ Baldwin,¹⁰² Sollier,¹⁰³ Christian Ulrich,¹⁰⁴ and others. The obesity of senescence may be associated with senile fibrosis of the thyroid and fatty change in its epithelium, as shown by Sir Victor Horsley; this has been found also by Erdheim¹⁰⁵ in the parathyroids and the hypophysis¹⁰⁶ of aged persons, a fact also observed by Launois. The retrogression of the sexual glands has also to be taken into account.

As before observed, intimate relations subsist between the sexual glands and the thyroid; over-function of the ovaries may be followed by their exhaustion, and as an associated result the thyroid will undergo premature degeneration. This may explain why women, as a rule, become senile and grow fat more often than men. Thus obesity may follow frequent pregnancies and prolonged lactation; these are also frequent causes of myxœdema, according to Ord,³⁰ Morvan,³¹ Coombe.³² Regaud¹⁰⁷ has found atrophy of the testicle in the guinea-pig when kept in complete sexual abstinence. There is much clinical evidence for the supposition that total suppression of the function of the sexual glands may affect the nervous system, as shown by the production of neurasthenia and hysteria. These diseases seem also to be more frequent amongst the unmarried between thirty and fifty, especially women.

Obesity occurs after various conditions which produce degenerative changes in the sexual glands, as after the menopause; accompanying the changes in the ovaries, there would be modifications of the thyroid. Obesity may also arise after the convalescence from infective diseases as a result of the thyroid degeneration due to the disease itself. According to the examination of Roger and Garnier,²⁸ confirmed by Crispino,¹⁰⁹ and Torri,¹¹⁰ a hypersecretion of colloid may be met with in such diseases, but this may be followed by exhaustion of the gland. Infective diseases may also lead to modifications of the sexual glands. Cornil has seen menstruation with abundant metrorrhagia in the early stage of typhoid, and at the autopsy a few weeks later a very voluminous corpus luteum.

Involvement of the sexual glands in infective conditions is also illustrated by the experiments of Metchnikoff;¹¹² on injecting tetanus bacilli in large quantity he found them in the ovaries of female animals and in the testicles of the males. According to Loisel¹¹³ the ovaries play the part of clearing the organism of noxious agents, endo- and exo-toxins. Obesity following convalescence from infective diseases may thus be due to modifications in the sexual glands as well as to thyroid degeneration.

There is a third gland which seems to stand in some relation with obesity, viz. the hypophysis. Thus in cases of acromegaly obesity may arise. Even in cases of tumor of the hypophysis, without acromegaly, obesity may be met with. In 1841 such were described by Mohr.¹¹⁴ Fröhlich¹¹⁵ has collected a number of such cases published by Hippel,¹¹⁶ Gläser, Boyce, and Beadles,¹¹⁷ Pechkranz, Stewart, Walton, Cheney, and to these he added another of his own. In addition, such cases have been recorded by Eisenlohr,¹¹⁸ Roth, Ingermann, Cestan, and Halberstadt, Babinski,¹¹⁹ Selke, Strümpell,¹²⁰ Zak, Burr, MacCarthy, and Erdheim.¹⁰⁶ Berger¹²¹ has published an example of tumor of the hypophysis associated with obesity, and Madelung¹²² a case of great development

of subcutaneous fat in a girl, aged 9 years, following gun-shot injury of the hypophysis. On the ground of the foregoing clinical observations I am inclined to distinguish two categories of obesity—(1) the exogenous, (2) the endogenous.

The first is that arising from rich living, especially carbohydrate food, combined with little exercise. The second is seen in those who eat little yet continue to grow fatter and is due to degeneration of the blood-glands which regulate the process of oxidation. Persons of the first category are red in the face and plethoric. Those of the second are usually pale and feel cold, with no tendency to perspire; their fat is firm, or like bacon. Pronounced cases of this kind might, I think, be called bacon obesity; these patients are especially benefited by thyroid treatment. Thyroid treatment in persons of the first category might lead to glycosuria or even to diabetes, though in such this would not be of great intensity. Diabetes, on the other hand, is rare in persons of the second class. The endogenous form of obesity may be reckoned as a disease due to morbid conditions of certain of the blood-glands.

ARNOLD LORAND.

Carlsbad.

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VACCINATION AND ANTIVACCINATION.

This letter is a personal communication to the editor in reply to a request for data. It is not intended for publication. The facts stated are so forcefully and succinctly expressed that they are published in this epistolary form by permission (granted with difficulty). This constitutes an admirable outline presentation of vaccination and antivaccination. Prof. McFarland was present at a great anti-vaccination meeting recently, and heard the best testimony they could adduce for their opposition.

PHILADELPHIA, July 24th, 1906.

DEAR DR. TAYLOR—It seems hard on me to make me put in writing the discussion on vaccination and antivaccination a second time. It's such hot weather, too! I will give you, however, the main arguments of the antivaccinationists. They assert that:—

1. Statistics prove that vaccination has not, does not, and never will diminish the incidence of small-pox. Answer that, if you can.
2. Vaccinia and small-pox are one and the same thing, the latter in its contagious, the former in its non-contagious form.
3. Great-pox and small-pox are identical.
4. Everyone who is vaccinated is syphilized.
5. The fact that seven-eighths of the population of the United States have been syphilized by vaccination explains the now-progressing rapid degeneration of the Anglo-Saxon—i. e., American people.
7. More people are directly and indirectly killed and maimed by vaccination than were ever injured by small-pox.

Now, if you think you can argue these points to any successful issue, you may then take up the great legal point:—

8. Compulsory vaccination is tyranny, and therefore unconstitutional, and opposed to the fundamental principles of the American Government.

I might add other arguments that should be met with other answers than mere denials.

9. Compulsory vaccination is recommended by the doctors in order that they may reap the pecuniary benefits.
10. It is urged by boards of health at the instigation of political doctor-grafters who seek the small fee that the operation brings in.
11. Compulsory vaccination legislation is the result of successful lobbying by manufacturers of vaccine virus and by "political doctors" holding high-salaried offices that would have little to do if vaccination were taken out of their hands.
12. The general sentiment of the people of the country is against vaccination as being doubtfully useful and undoubtedly dangerous, and is opposed to legislation that imposes upon their constitutional rights.

Here are the points you asked for. They may not be just what you want, but their answer is what the antis want. You see they are specious arguments, that all bear a strong semblance to truth, because behind each of them there is enough truth to make it awkward to controvert them. In lecturing upon the subject I usually go at it in this way:—

Prior to 1800 small-pox was one of the most common of diseases. Everybody expected to have it, and few men or women escaped. Literature is full of references to its destructive effects upon the beauty, vision, health, and life of the day. Thackeray's *Henry Esmond* is a good book to refer to.

About 1800, Jenner and his contemporaries introduced vaccination in the face of every kind of medical, religious, and secular opposition. Its advantages, however, were so obvious in the beginning that the prejudices were easily overborne.

When small-pox was so universal, the lower animals suffered constantly from cow-pox, sheep-pox, swine-pox, horse-pox, etc., all of which disappeared as small-pox became rare.

Jenner's work was empirical and demonstrative. His scientific premises—as, for example, that vaccinia had its origin in "greese" of horses—were wrong; but, despite this, he discovered and demonstrated a new fundamental truth. Columbus was wrong when he thought he could sail across the Atlantic Ocean to India; he was still wrong when he discovered America and thought it to be India; but notwithstanding that, he made the greatest of all geographical discoveries. So Jenner's foundations were in error, yet he made one of the greatest medical discoveries.

The relation of vaccinia to small-pox seems entirely clear. Vaccinia is variola of the cow. The virus, virulent in man, is attenuated in the cow.

The successful infection of vaccinia into man is followed by immunity against the virulent organism of small-pox. These two principles are in perfect

harmony with the general principles of immunity.

It is not the *operation* of vaccination, but the *infection* following it, that secures the immunity.

Vaccination is done for the purpose of making a person slightly ill, in order that he may not become seriously ill. *Ergo*, vaccinia is an illness.

Vaccinia sometimes, but rarely, runs an irregular course. In this it corresponds to all acute diseases.

It is sometimes so mild that no beneficial effects result from it.

It is sometimes itself a serious illness.

It is never contagious—rarely disfiguring.

Contrast this with small-pox:—

It is always contagious.

It is always disfiguring.

It is commonly dangerous.

It is commonly fatal.

Vaccination-scars are the best index we have of the fact that one is exempt from small-pox, but are not infallible. They only show that one has been operated upon. The typical scar usually guarantees that one has had vaccinia. Having had vaccinia usually guarantees exemption from small-pox, but none of these things follow of necessity.

Vaccination sometimes fails to take. This is inevitable—

1. Some persons are naturally immune to both small-pox and vaccinia.
2. The operation may not have been properly performed.
3. The virus may have been so old, or so poor, that it contained none of the essential organisms of the disease.
4. The use of antiseptics may have destroyed the essential organisms.

In all these cases, though the individual has been vaccinated, he has not had resulting vaccinia, and so is not benefitted by the operation, the purpose of which is to cause a disease.

Vaccination sometimes results in unexpected derangements.

1. Some individuals are so susceptible that they become unusually ill, and may even suffer from a generalization of the disease resembling small-pox, but not dangerous and not contagious.
2. Virus taken from human beings may contain other microorganisms virulent for other human beings—syphilis, erysipelas, etc.
3. Virus taken from calves, and hence not possibly containing such organisms, may still contain a few accidental dangerous organisms from the soil, air, dust, intestinal worms, etc.—tetanus bacilli, staphylo-

cocci, etc. Evil results from this cause are very rare, because all viruses are now tested for the exclusion of such organisms.

4. Pure virus may be implanted in a careless manner by which micro-organisms on the arm—skin—may be subsequently rubbed in, or later, when itching begins, such organisms may be carried in by the child's finger-nails.

The cases of osteo-sarcoma, emaciation, tuberculosis, and other dreadful conditions pictured in the literature of the antivaccinationists are coincidental, and have nothing whatever to do with one another.

I hope this will be of some use to you.

Cordially yours,

JOSEPH McFARLAND.¹

REMARKS ON THE PSYCHIC EFFECTS OF INEBRIETY.

Few subjects in the experience of medical men are more worthy of discussion and thoughtful formulation than the management of psychic disturbances resulting from the excessive use of alcohol. It comes within the almost daily experience of most of us to meet conditions which are due to the use of alcoholic beverages, direct or indirect. These divide themselves, first, into those which follow actual drunkenness, and these, again, subdivide themselves into the effects of steady drinking or the occasional and apparently uncontrollable excessive use. Our responsibility too often is made to end here. There is another class of cases of even greater importance, where the subject has gradually acquired the habit of taking almost constantly an amount of alcohol which does not seem to subvert the consciousness, and yet produces disastrous effects upon the mind which can only be realized and demonstrated after the individual has been thoroughly emancipated from the habit. Several illustrative instances of this last have come under my observation, and the handling of whom is always problematical. I think most of us fail to realize the necessity for eternal vigilance and long-continued persuasive efforts to overcome a tendency which, in its effects, is most disastrous. The temptation is for the medical adviser, after a time, to let such persons alone. Oftentimes almost insuperable obstacles are placed in his way; the individual does not invite, beyond a certain point, any assistance, and at times resents advice emphatically, and at last uses every device to shake off control. Finally, the most difficult thing to overcome of all is the disinclination on the part of the physician to persist, because there is no apparent reward in sight commensurate with the labor, trouble, and annoyance to

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which he is subjected in the discharge of conscientious obligations to himself. Almost always there will be found, in even the most difficult of these persons, a fair degree, sometimes remarkable, of intelligence; so much so that it becomes a proverbial saying that the most unconquerable drunkards are individuals of exceptional mental powers. This is not necessarily true, because oftentimes the brilliancy exhibited is rather apparent than real. We are liable to regard the degree of intellectuality which is evidently being destroyed, merely in contrast to others toward whom our solicitude is not so warmly elicited. One of the most absorbing quests in my experience was that of an extremely brilliant woman who came under my professional care irregularly many years ago, and for whom I was able to accomplish what was possible. She gradually acquired the habit of exceeding in, first, cigarette smoking, next the use of morphia, and finally alcohol. Sometimes these were used almost alone for a period, but generally all were combined. During the early part of this period, when she was a young woman engaged in intellectual pursuits, she found that her brilliancy was enhanced by the use of small doses of morphia. During this period considerable work was accomplished which brought much fame. Attempts at withdrawal of the morphia resulted in such a diminution of creative power that the temptation to continue its use, in order that certain bits of work should be finished, was practically insuperable. One fact was clearly demonstrated to me by this case: that extraordinary mental products are capable of being produced by the mental stimulus of morphia. There are occasional instances where the use of opium in some form, habitually used, makes for a valuable degree of intellectual effort. Of course, it can be objected that the quality of work thus done is unreal, fanciful, inferior to that which is the result of the normal uninfluenced mental processes. Individuals vary widely in their susceptibility to the effects of morphia. I have in mind a case of a man who, if I can take his statement (and I think it is accurate), has used a moderate degree of morphia for over fifteen years, and his general health and intellectual vigor remain about the same, and they are good. Another patient, a lady, maintained good health after over twenty years. Another thought arises, of which I have never yet seen sufficient statistical evidence to enable me to reach a final conclusion, and that is the varying effects of morphia upon the sexes. The effect of morphia upon men is in many respects different from that upon women. I have never yet seen a morphia habitue who, when the habit was entirely overcome, was not rejoiced at the absence of the thralldom, unless there were other influences at work to complicate this and impair the powers of resistance. It is quite true, and almost an axiom, that the opium-taker will return to the use of the drug under conditions of strain or overwhelming disasters, because of the relief which this affords to depressing influences. The subject of this paper is rather the effects of alcohol, and the first instance cited, of

the lady, hinges largely upon this factor. When she gave herself up to the use of alcohol the creative faculty seemed practically killed and has not been restored. There was a period, while under my control, when an entire freedom was obtained from all these three poisons, for a period of over three months, and the result was curious. Physically, everything was satisfactory, but the mental attitude was disheartening, because there arose a deliberate and overmastering desire on her part to return to the use, especially of the morphia, because there was recognized an inability to shine intellectually, even in conversation, unless a certain amount of this was used. It became impossible for me, or any one else, to control her at that time, and I am inclined to believe that she returned to the use of this and continues it. Her physical health is undoubtedly enormously better; practically good. In dealing with some exceptionally difficult neuroses, I have occasionally found evidence of the use of small doses of morphia. This appetite can only be overcome by forceful means and by the exercise of the utmost vigilance, which from various exigencies often becomes impossible to maintain. I have seen many instructive instances of the effects of continued use of alcohol. One is that of an intimate friend of mine, a lawyer of early middle life, who early exhibited great promise, which was of rather too varied a character to warrant the expectation of much real progress in his chosen career. He was unfortunately endowed with great musical abilities, an extraordinary charm of conversation, and a most brilliant wit. These qualities naturally tempted him to waste a great deal of his time in mere social drivellings. His digestive and general health seemed invulnerable. Little by little, however, mental depression set in, which progressed to a most distressing degree. For this he sought some relief, and, recognizing the influence, I begged him to abjure the use of alcohol. He asserted that the amount and the manner of his use of this poison produced so little effect, and so many of his intimates did much the same thing without obvious ill effects, that he was convinced my advice was little more than a prejudice against the use of his favorite beverages. I employed in his instance a number of rational measures, such as regulating his daily life, the use of exercises, and in a number of ways assisted him in remodelling his methods. Two or three years elapsed and his physical condition became distinctly worse; his mental depression was more pronounced, but known to no one but himself and myself. Finally I was enabled to make a great impression upon his imagination by telling him that his liver would become irretrievably injured by the use of the alcohol; thereupon he promptly gave it up and has not used it since, except in such moderation as to do little harm. The interesting point in this case was the extraordinary change in mentality, which amplified in a way not only to astonish me, but himself. It must be remembered that this was a man of exceptional vigor and at no time would the casual observer have felt that the alcohol taken was in sufficient amount to produce any serious

effects. Even a physician, not his personal friend, could scarcely have realized the truth. However, at the present time it is interesting to note his own conclusions. These are to the effect that in the matter of professional work, the time was when he felt perfectly content to have done a certain amount of work each day and be satisfied with a moderate advance professionally. Whenever he, to use his own words, could conscientiously excuse himself from work any one day, he promptly ceased and went about his amusements, which involved a certain amount of what he called work, and the same old round occurred, and in the morning the dreadful depression recurred, wearing off during the activities of the day. As the final effects of the alcohol gradually ebbed away, emphasized by an extended trip, in which he was able to get, as it were, a perspective on himself, a new heaven and a new earth were revealed. He suddenly found himself eager to undertake new and difficult problems. He acquired, almost instantly, a wider range of observation, a broader grasp of practical truths. Old items of knowledge which had rusted, became efficient in his hands, and from being merely a mediocre lawyer of ornamental and interesting personal qualities, he rapidly developed into a man of affairs and usefulness, taking the utmost pleasure in his progress and results. My comment on this typical instance is that there are many such demanding our recognition and care. It is almost an unwarranted liberty to assume that many men, doing their own work in their own way with fair measure of success, are yet stultifying themselves and placing a barrier upon their progress by indulgence in what is ordinarily considered perfectly legitimate convivialities. This is merely the type of case which ought to come under the searching eye of the family physician, into whose jurisdiction they often fall. The chief difficulty in dealing with such is, first, the fact that they seldom seek relief, because they are conscious of no suffering; and second, that the medical man does not feel he has the right to interfere. In consequence, many lives are thus warped or fail of their full fruition. Another instance occurs to me full of significance. Fifteen years ago I knew, in London, the foreign correspondent of one of our strongest daily papers. He was of a race of brilliant journalists and had made a most admirable reputation for himself. Like too many men of his profession, he used a certain amount of alcohol habitually, and would occasionally exceed to such an extent as to disable him for a day or two, but this was condoned. Finally, however, the habit grew, the poison of alcohol subverted his resistance, until these lapses were uncontrollable. He lost one valuable position after another. His was the particular type only too common, who can go for weeks at a time without the inclination to touch a drop, and suddenly be overcome without knowing why, and he became insane for a week or ten days, and then would wake as from a dream, to find himself in a deplorable condition and would lose his position. More through friendship than by professional relationships I got hold of him, and partly by

earnest persuasion and partly by hypnotic suggestion I was able to control these episodes more and more. My chief power lay through the vigilance of his wife, who learned to recognize the premonitory symptoms, extremely vague, and I was able then to redouble my efforts and tide over many evil episodes. The chief lever by which I swayed his judgment was gained through full hypnotic suggestion. In that state I demanded of him that whenever he should touch so much as a drop of alcohol, always the beginning of a period of complete psychic subversion, that he should come straight to me, wherever he might be situated. The story of some of these experiences would be interesting reading; suffice to say that several times the drink-fever seized him and in an hour or two he would be compelled, totally against his conscious will, to come to me at most inopportune hours and places, and I would then take charge. He had dropped to the position of a mere reporter, but as we would be able to stave off these evil spells his intellectual abilities rose to their normal level and he was able to regain the position in the journalistic world which his capacities warranted. I do not consider him even yet safe, nor does he. The time may come when he will be so; meanwhile we have fought through some periods which were never even recognized by his employers, and I feel confident that he is practically safe so long as he has some one who can, and will, influence him, as I did, when the necessity arises. In this man's case there has been more than ordinarily a restoration of the proper intellectual point of view. His work, never lacking in brilliancy, has now more definiteness of purpose. A higher responsibility would double the safeguards which our combined efforts have accomplished. The effects of long-continued alcoholism upon cerebration are too well known to be related in detail, but it is always a revelation to the practical physician or humanitarian, how great a matter can be accomplished by omitting the continued efforts of the poison upon the cerebral cells for a sufficient length of time.

In a rather extensive experience in the use of suggestion and hypnotism in alcoholics this rule has become established. After the apparently most difficult cases are satisfactorily relieved, in those which seem easiest ultimate failure seems inevitable.

J. MADISON TAYLOR.

Cyclopædia of Current literature.

ALBUMINURIA.

The writer holds that the urine should be tested for albumin as a routine, and not only when indications point toward disease of the kidneys. Albuminuria may be due to a variety of causes, and

hence, when present, its specific nature should be investigated and all data discoverable in the urine as to the site of the lesion should be searched for.

Urethritis, cystitis, pyelitis, nephritis, tuberculosis, lithiasis, hæmorrhage, and

malignancy of various portions of the urinary tract may often be diagnosed with considerable certainty from the urinary examination alone. The variety and extent of a nephritis may be diagnosed presumptively by the amount of albumin and character of the tube-casts found, but for a more exact diagnosis the entire clinical picture should be taken into consideration. In some instances a positive diagnosis of the character and extent of the kidney lesion can only be made post-mortem.

The general rules for the urinary findings are as follows:—

Temporary congestion, active or passive: Urine scanty, high-colored, smoky or dark, specific gravity high, albumin present in small amounts, a few erythrocytes and leucocytes present, a few hyaline and occasionally granular casts.

Acute parenchymatous nephritis: Urine scanty to even anuria, high-colored, smoky, brown, or almost black; specific gravity high; albumin present in large amounts to complete consolidation. Red and white blood-cells fairly abundant, hyaline, pale and dark granular blood-casts, and occasionally epithelial and pus casts. With the latter present, the possibility of the acute interstitial form of nephritis should be remembered.

Chronic parenchymatous nephritis: Urine varies in amount from a little sub-normal or normal to a considerable increase; color, pale or normal; specific gravity usually lowered, urea diminished, albumin reaction well-marked; renal cells, hyaline, granular, epithelial, waxy, and rarely oil casts may be found. This form of nephritis is subject to acute exacerbations, when the findings approximate those of the acute form.

Interstitial nephritis: Urine increased in amount, pale, specific gravity often very low, urea low, albumin slight in

amount and infrequently apparently absent, casts few, usually wide hyaline, occasionally granular, and rarely waxy. J. H. J. Upham (Cincinnati Lancet-Clinic, September 8, 1906).

ALBUMINURIA, HÆMATOGENOUS.

The writer states that it has been known for years that there is a form of albuminuria occurring in persons not the subject of kidney disease. They are generally young men or boys; often they are pale, wanting in vigor, and dyspeptic, and are liable to faints or headaches; they have usually excitable hearts, and the arterial tension varies greatly. The urine is not of continuously low specific gravity; the albumin, which is mainly serum albumin, is often present only at intervals, following rising from bed, taking a meal, beginning work, or coming on after muscular exertion, cold bathing, or emotional strain. The urinary sediment contains no tube-casts or renal cells; crystals of oxalate of lime are often present, also an excess of uric acid. Wright's blood-studies make it probable that this kind of albuminuria is due to a disorder of the blood, the outstanding feature of which is lessened coagulability (diminished viscosity). The evidence for this view is as follows: In four subjects of the disorder the coagulation-time of the blood was far above the normal. On bringing it to normal by means of the administration of calcium lactate, the albumin disappeared from the urine. In four subjects of kidney disease, while the coagulation time of the blood was increased, yet calcium lactate had no effect upon the albumin. The functional efficacy of the kidneys was unimpaired in seven cases of hæmatogenous albuminuria, and greatly impaired in four cases of nephritis. The subjects of the disorder have usually

been undergoing rapid growth, in which there is a demand for calcium for bone formation. Milk diet, which is rich in calcium, cures the albuminuria in many cases. The symptom is to be classed with other "serous hæmorrhages" dependent on transudation of serum and associated with lessened coagulability of the blood; *e.g.*, urticaria, chilblains, some headaches, œdema, and weeping eczema.

The control of the albumin by calcium lactate is the chief clinical test. The two other chief diagnostic signs are that the albumin is lessened or absent in the night urine, and that the urinary sediment contains no casts or renal cells, but often crystals of uric acid or oxalates.

A serious view need not be taken of the disorder; it is indeed pathological, but its prognosis is mainly that of the state of blood-debility of which it is only a symptom. Rest in bed, a milk diet, saline purgation, iron, and *nux vomica* bring about a cure. But rest may be overdone. Alcohol must not be given. Strontium lactate may be efficacious when the albuminuria is refractory to the calcium salt. R. H. Fox (*Lancet*, August 25, 1906).

ALCOHOL AND THE NEUROSES.

The author contributes an extensive review of this subject, which leads him to the belief that alcoholism must be regarded as a highly important factor in the etiology of the functional diseases of the nervous system, and that it is of significance not only on account of the frequency of its action, but also on account of the gravity of the consequences induced by it. It may lead to neurasthenia, even in the absence of any predisposition; it may evoke epilepsy in those who inherit a tendency to the disease, and it may greatly increase the severity

of the malady when already present. It may greatly aggravate a hysterical constitution, and induce acute outbreaks of mild or severe hysteria, and may also exert a very unfavorable effect on other types of the neuroses. Furthermore, all of these disorders possess in common the property of predisposing to alcoholic excess, and one does not need to be an advocate of total abstinence to realize that in all functional nervous diseases it is advantageous for the patient to refrain entirely from the use of alcoholic beverages. While even small amounts of alcohol may be decidedly injurious to epileptics, it is not necessary to be quite so strict in cases of hysteria and some forms of neurasthenia. Although in such cases some concessions may be made to the patient's inclination, as a rule it is desirable to avoid the habitual use of alcohol even in moderation in all cases of functional nervous disorders, and it appears highly undesirable to complicate the therapeutic problem in these diseases, which are supposed to depend largely on some toxic action, by the continual introduction into the body of another toxic agent such as alcohol. Loewenfeld (*Münchener medizinische Wochenschrift*, August 21 and 28, 1906; *Medical Record*, September 22, 1906).

APOPLEXY, GENERAL SYMPTOMS OF.

So-called "preapoplectic pain" has not been often observed, but is regarded by some as a prodrome of apoplexy. Excessive restlessness (apoplectic motation) may have some differential significance in favor of hæmorrhage. A pulse indicating high pressure should not *per se* prejudice in favor of hæmorrhage, since it is encountered in proven cases of thrombotic apoplexy. Unilateral temperature should receive more clinical

consideration than it does, since an elevation makes hæmorrhage very probable.

The early appearance of the "Babinski toe-sign" makes it a most important diagnostic sign during the comatose period, and should be regularly and diligently sought for. In the postplegic state the Babinski toe-sign also constitutes the most valuable of the lately acquired reflexes found in the spastic symptom-complex. The Oppenheim and Gordon reflexes, when present, are also of great value.

Excellent authorities agree that cerebral muscular atrophy appears very generally in cases of hemiplegia. Posthemiplegic pains are of frequent occurrence in the paralytic state of apoplexy. Cerebral hæmorrhage may have its onset without sudden loss of consciousness. Sudden and complete coma should not be regarded as an absolute diagnostic criterion in favor of encephalic hæmorrhage, since thrombosis may have an apoplectiform (sudden) onset. The presence of a cardiac lesion is of more than relative, though not of absolute, value in diagnosing cerebral embolus. Cerebral thrombosis may be ushered in with sudden, complete coma resembling that due to hæmorrhage, although its usual onset is slow and invariably preceded by prodromes. D'Orsay Hecht (*Medicine*, August, 1906).

APPENDICITIS AND JAUNDICE.

The appearance of jaundice after appendicitis operations has not received sufficient notice. The writer does not refer to the cases of pylephlebitis in which the icterus appears late, if at all, and persists over long periods, but to cases in which the jaundice shows itself early, either to fade in a few days or to indicate a rapidly progressive and fatal infection. In 165 cases there were

22 deaths (13.3 per cent.); of all the cases observed, 18 showed jaundice, and of these 10 died (55.5 per cent.). The jaundice is the result of a severe general infection; often not accompanied by peritonitis. The operation is usually followed by a latent period marked by improvement, then 36 to 48, or even 60, hours later a slight jaundice develops. Usually psychical unrest, insomnia, and slight delirium follow, the pulse grows more frequent, the temperature remaining low or rising. The delirium is apt to become violent, and is succeeded by stupor and all the symptoms become aggravated, especially the rapidity of the pulse, which reaches 120 to 140 beats. The picture resembles that of an acute iodoform intoxication. A few cases recovered after one to two days, but the majority died within 24 hours, that is, 48 to 72 hours after operation. Four of the ten fatal cases showed no peritonitis. At the operation the appendix was found severely diseased, autopsy showing evidences of a severe general sepsis (fatty degeneration of the viscera, hæmorrhages, swelling of the lymph-glands and Peyer's patches, etc.). The process described is of the same nature as the well-known pylephlebitic inflammations, which, however, are slower in their course.

The writer believes that these findings should render one cautious about doing more than draining the periappendicular abscess, if interference is delayed longer than 48 hours after the onset, as the inflammation described is due to dislodgment of septic foci from the mesenterium. Even operations performed within 24 hours of the onset, in rare instances, progress to the same fatal outcome if the original infection is very severe. P. Reichel (*Deutsche Zeitschrift für Chirurgie*, Heft 1-2, 1906; Ameri-

can Journal of Surgery, September, 1906).

APPENDICITIS, TREATMENT OF SUPPURATIVE PERITONITIS FOLLOWING.

That the peritoneal drain can be eliminated as a factor of importance in the treatment of diffuse suppurative peritonitis the author believes has been shown by the outcome in 28 patients operated on since 1903. The McBurney muscle splint, with or without the Weir extension to the posterior sheet of the rectus, has generally been found sufficient for the necessary manipulations. As little ether as possible was administered, and every effort was made to complete all peritoneal work with as much speed and as little traumatism as possible. The appendix was systematically searched for and removed with as little disturbance to the intestines as need be. After its removal and the cleansing of the appendiceal site, the pelvis and lower abdomen were rapidly washed out with the Blake tube or the jacketed glass return-flow canula. In many cases the peritoneum was closed without attempting to remove the saline solution which had not run out. Drainage of the external wound down to the peritoneum was generally employed, from the fact that the wound was usually infected and needed it. Gastric lavage was given before the patient left the table, and, as a rule, an ounce or two of saturated solution of Epsom salts was introduced through the tube and left in the stomach. Morphine, as far as possible, was not given, and the rectal tube with saline irrigation of the lower bowel was used generally at intervals of from six to eight hours for the first two days. If vomiting occurred, the stomach was washed. The use of saline irrigations to

the peritoneum, through the small lateral incision, does not consume much time, and seems, by diluting the remaining fluids, to hasten their absorption, besides acting generally as any intravenous infusion would, to hasten the removal of toxins by dilution, besides stimulating the heart and circulation. Moreover, the actual ability of the peritoneum to cope with the inflammation seems to be increased, and not hindered. In those cases in which the inflamed appendix is the cause of the peritonitis, the problem resolves itself into the rapid removal of the offending organ without evisceration, in all cases. The peritoneum has proven itself abundantly able to take care of the resulting inflammation, and drainage, in the absence of local necrosis, is often ill-advised and not based on sound physiology or mechanics. Gauze packing is not only unnecessary, but frequently harmful, being probably responsible for increased mortality, not to speak of the incident damage to the endothelium, with the resulting adhesions. L. W. Hotchkiss (Annals of Surgery, August, 1906).

ARTERIOSCLEROSIS, GASTROINTESTINAL DISTURBANCES DUE TO.

A case of arteriosclerosis is described by the author, in a man of 65, in whom severe pains developed in the epigastric region, accompanied by palpitation of the heart and difficulty in breathing. A common cause for the heart and stomach troubles was suggested by the lack of any other symptoms from the digestive tract, and the absence of any signs of nervous or hysteric tendencies, but chiefly by the promptly successful result of treatment. No gastralgia of any other origin yields at once to heart-tonics. Digitalis and potassium iodide were ordered in small doses, with a suit-

able diet. In another case a man of 65, with generalized arteriosclerosis, complained of attacks of pain in the abdomen at times during the last few years. As in the first case, the absence of signs of neurasthenia or hysteria and of digestive disturbances, and the prompt benefit from heart-tonics, were presumptive evidence in favor of the theory that the painful attacks were due to the existing arteriosclerosis. The cases in which the attacks of pain occur alone, that is, unaccompanied by angina pectoris, are the most important from the differential standpoint. If the true cause is not recognized, the patient loses the benefit of appropriate treatment.

The most characteristic feature is the strict localization of the pain in the epigastrium, appearing in persons of 40 or over. The pain is a sharp, stabbing or burning sensation, lasting generally only for a few minutes. It radiates sometimes to the liver, shoulder, or arms, and ptalism may be observed, with a cold sweat and semi-unconsciousness. Between the attacks there is no pain, at least in the milder cases; in others there may be a dull, continuous ache. There are generally no other disturbances from the digestive tract, although sometimes constipation, diarrhoea, meteorism, etc., may be observed. Other morbid processes are liable to occur in the digestive organs, aside from those due to the arteriosclerosis, of course, and the latter may induce thrombosis, or even actual ulcer formation.

The attacks in the writer's cases followed unusual physical exertion. Buch has reported a case in which the attacks were liable to come on when the patient lay down. Emotions and excesses are also liable to bring on an attack. On the other hand, the kind of food has no influence. The shortness of the painful

attack, the radiation of the pains, and the occasional alternation with angina pectoris confirm the diagnosis. The same causes that elicit angina pectoris are noted in the history of these attacks. Pressure on the epigastrium sometimes induces pain similar to that of the typical attack. The pure arteriosclerotic gastralgia subsides or vanishes altogether under diuretics, digitalis or strophanthus. The syndrome may simulate ulcer, nervous dyspepsia, or even cholelithiasis, until death in syncope occurs, and autopsy reveals the unsuspected sclerosis of the coronary, stomach, or intestinal arteries. Jaworsky has published reports of four such cases, in which the patients suddenly succumbed to this form of arteriosclerosis while under treatment at Carlsbad for nervous dyspepsia. E. E. Rodhe (*Hygiea*, Vol. lxviii., No. 10; *Journal of the American Medical Association*, September 8, 1906).

BLADDER TUBERCULOSIS AND ITS CURE.

Illustrations are given by the writer of specimens of some of the 56 cases of tuberculosis of the bladder that have passed through his hands. Primary genital tuberculosis only exceptionally involves the bladder, and it is a still rarer occurrence for the bladder to be alone or primarily affected with tuberculosis. As a rule, the bladder-lesions have spread from a tuberculous affection of one or both kidneys. The only certain means of determining the condition of the kidneys is by catheterization of the ureters, and only then when the urine from one or both kidneys is found free from evidences of tuberculosis. The writer's cases show that a tuberculous lesion in the bladder may spread upward into the second ureter, toward the sound kidney. The urine from this ureter will

then show signs of pus and tubercle bacilli, when in reality the kidney beyond is still sound. In such cases, instead of abandoning the patient to his fate, as necessarily doomed by a bilateral tuberculous affection of the kidneys, a double exploratory lumbar incision, with possibly ureterostomy, may reveal that one kidney is still sound, so that its mate can be safely removed, after which the tuberculous lesions in the bladder and ureters are liable to heal spontaneously, if not too advanced.

In the advanced and extensive cases, treatment with carbolic acid is advised by the author, which he has found very effectual, having completely cured 13 patients by this means. After the bladder has been cleansed of pus, 50 cubic centimeters of a 6-per-cent. solution of carbolic acid should be injected, warmed to about 35° C. The fluid is retained for three or four minutes and then evacuated, when it flows out, muddy or milky. This procedure is repeated three or four times, until the fluid comes away somewhat clear. The whole procedure requires only about ten or twelve minutes. The carbolic acid solution is drawn out from the bladder through a catheter, but the bladder is not rinsed afterward. A suppository containing 2 centigrams of morphine is introduced into the rectum immediately after the injection, to deaden the pain, which is liable to be quite severe for two or three hours after the treatment. Treatment at first—until the urine of the intervening day becomes nearly clear—is repeated every second day, later with longer intervals, and the cystoscopic findings are compared with the previous findings at first every week, then every fortnight, and then each month.

The results in the author's cases were that the tubercles subsided and the les-

ions healed, leaving a smooth white surface with a mother-of-pearl sheen. The writer thinks that the carbolic acid penetrates into the cells and interstices, following the same paths the tubercle bacilli have taken after their toxins have irritated the hyperæmic mucosa of the bladder, and thus produced conditions favoring the entrance of the bacilli into the bladder-wall. A 6-per-cent. aqueous solution of carbolic acid soon kills tubercle bacilli in the test-tube, and its action in the bladder is probably enhanced by the hyperæmia and phagocytosis which it induces. Be this as it may, one thing is certain, he says, namely, that for the first time—a local treatment has shown itself capable of curing even very extensive and virulent tuberculosis of the bladder. He has never witnessed any serious by-effects. The urine was slightly discolored in some cases, and two little girls vomited a few times the next day. The only drawback is the pain liable to follow the injection, but this can be kept under control with a little morphine. The length of treatment varied from one to six months, according to the severity of the case. A radical cure is possible only when the bladder process is primary or when the primary focus in the kidney has been removed. T. Rovsing (*Hospitaltidende*, Vol. xlix., Nos. 27-28; *Journal of the American Medical Association*, September 15, 1906).

CAISSON DISEASE.

Frictional electricity is considered by the writer to be a most potent factor in the production of the symptoms of caisson disease, or "the bends." The caisson atmosphere is charged with electricity, carried by the droplets of water vapor, and the electric potential in a moderately sized caisson may be compared in amount with that in a flash of lightning. The

electricity is generated by the friction, against the walls, of the moist air which is sucked in and simultaneously compressed. The work in this atmosphere accumulates upon the body-surface electricity which, either by directly permeating the tissues, reaches the nerve centers, or, by acting upon the peripheral nerve-filaments or muscle end-plates, stimulates the centers. The nerve-cells, in consequence, are thrown into a state of excessive activity, manifesting itself by discharges of a purposeless motor and sensory nature—the “bends.” G. W. F. Macnaughton (*Lancet*, August 18, 1906).

CALCIUM IN THE TISSUES, ROLE OF.

A certain proportion of calcium ions is necessary for the healthy life of protoplasm, as well as for the maintenance of the normal coagulability of the blood. An increase in the concentration of these ions is always accompanied by a depression of function, and a diminution by excitation. For instance, if a salt which precipitates calcium, such as sodium metaphosphate, be directly applied to the brain or to the medulla, a general and local excitation is produced, which disappears on the application of a suitable quantity of a soluble calcium salt. The researches of Loeb, as well as those of the author, have shown that such salts as sodium citrate, tartrate, and metaphosphate also provoke muscular contraction, and this, again, is diminished by the action of soluble calcium salts. MacCallum, in his investigation into the mechanism of the action of saline purgatives, showed that these drugs owe a good part of their effect to an increased irritability of the neuro-muscular apparatus of the intestine, due to the deprivation of calcium ions. The presence of an excess

of calcium, besides lessening nervous and muscular activity, also diminishes the secretion of urine, and the permeability of the renal epithelium to sugar. As a result of such observations, Loeb came to the conclusion that the irritability of the nerves and muscles and the rhythmical activity of different organs are dependent, amongst other things, upon the relation of the calcium to the sodium ions. The toxic dose, for animals, of sodium tartrate, citrate, and metaphosphate is proportional to the decalcification which they produce. From the point of view of transfusion for clinical purposes, it is important to notice that sodium carbonate, applied directly to the brain, has a depressing action, attributable to the alkaline or hydroxyl ion. If, however, it is injected into the circulation, sodium bicarbonate is formed, which does not exert this effect to the same degree. This appears to support the practice of preferring bicarbonate to the carbonate for injection into the blood whenever an alkaline infusion may be desirable, as in those diseases which are accompanied by an acid-poisoning. Sabbatani (*Arch. Ital. de Biol.*, February, 1906; *British Medical Journal*, August 4, 1906).

CALCIUM SALTS IN CERTAIN HEADACHES.

The writer states that there occurs often in women, and less frequently in men, a headache having the following characteristics: (1) It is present and most severe on waking, and tends to lessen or to disappear in from one to six hours. (2) It is usually a dull, heavy ache or a frontal or temporal throbbing; less often it is vertical, occipital, or unilateral; rarely is it neuralgic. (3) It is chronic and intractable, but may exhibit itself as the common occasional

headache to which many are subject.

(4) It is associated with a deficient coagulability of the blood. The subjects of this form of headache are usually of the lymphatic type. The expression is heavy and listless, the face is full and the eyes puffy, anæmia is often present, and the whole bearing indicates mental and physical lassitude. Symptoms which are often associated with the headache are pain after eating, constipation, œdema of face or extremities, dyspnoea, chilblain or urticaria, and neuralgia.

As treatment, the author has employed the following in a number of cases, with success: A calcium salt has been given in order to increase the coagulability of the blood; the lactate is to be preferred, and may be administered in a mixture containing 15 grains of this drug, half a minim of tincture of capsicum, and an ounce of chloroform water, to be taken three times a day before meals. If the lactate cannot be obtained the chloride may be substituted, 15 grains in an ounce of camphor water. Calcium lactate may be combined with bitters and with iron and strychnine, but not with alkalies or alkaline carbonates. The constipation should receive appropriate treatment, and the admixture of a certain amount of milk to the diet is advisable. The regimen should be simple; alcohol, shell-fish, and strawberries should be avoided. The author suggests that the calcium salts may be useful in neuralgias when accompanied by diminished coagulability of the blood, and in migraine. He has treated six patients suffering from chronic nephritis with these salts, and in five the headaches and œdema were greatly lessened. G. W. Ross (*Lancet*, No. 4299, 1906; *American Journal Medical Sciences*, September, 1906).

CANCER, RESISTANCE OF TISSUES TO.

The writer has been led to believe from personal observation that the tissues of certain individuals resist the spread of cancer even where there is extensive cell-infiltration. The disease long remains localized, metastases either do not occur at all, or develop more slowly than the original neoplasm. That cancerous foci may long remain localized, until they finally overcome the resistance of the surrounding tissues, or until younger and more active epithelial cells develop, is shown in the case of late recurrence after operation.

This individual idiosyncrasy may be utilized practically after operation by treating the cancerous foci which remain, with caustics that are not sufficiently powerful to destroy the zone of healthy protective tissue. The writer believes that the good results sometimes observed by the injection of erysipelas toxin are due not so much to their specific action, as to the fact that by the mild grade of inflammation which they induce increased tissue-resistance is favored. This resistance may be augmented by systematic nourishment of the patient, proper environment, etc. Maass (*Newyorker medicinische Wochenschrift*, Band xv., Nu. 3; *American Journal of Medical Sciences*, September, 1906).

CIRRHOTIC CHANGES IN THE LIVER FOLLOWING A SINGLE INJURY.

Various poisonous materials circulating in the blood may cause the destruction of the cells of the liver, sometimes in very small foci, sometimes much more diffusely throughout the whole organ. When the injury is limited in extent it may destroy so little of the liver that no definite symptoms result, and the injured area is in time replaced by scar

tissue. But if the injury is very extensive and involves at one time the greater part of the liver, symptoms at once arise, and such a condition, which is commonly classed as acute yellow atrophy, may quickly bring about the death of the patient. But there may occur a scarred condition of the liver perhaps intermediate between the ordinary cirrhosis and an extraordinary distortion, a condition in which some single attack of an infectious disease or some single intoxication has produced a single nonprogressive, though widespread, injury from which complete and permanent recovery has occurred. W. G. MacCallum (*Journal of the American Medical Association*, September 29, 1906).

COATED TONGUE, CAUSES OF.

Evidence is presented by the writer to prove that the microscopic findings in the fasting stomach are identical with those of the tongue. He has also demonstrated that in case of hyperacidity the blood is nourished more than in normal conditions, and in case of lacking acidity it is nourished less. The overnourished blood induces hyperæmia, increased metabolism, and consequent throwing off of the superficial epithelium. In such conditions the tongue throws off its epithelium and appears red and clean. In case of lacking acidity, the metabolism is depressed and the epithelium is not thrown off, but remains as a coating. The coated tongue is thus the result of anæmia, and the anæmia is ascribed to the lacking acidity in the stomach. Rollin (*Berliner klinische Wochenschrift*, Bd. xliii., Nu. 18; *Journal of the American Medical Association*, August 11, 1906).

CROUPOUS PNEUMONIA, POSTCRITICAL FEVER AND OTHER SEQUELÆ OF.

The writer reviews, from a study of 325 cases at the Presbyterian Hospital at Philadelphia, the postcritical fever and other sequelæ of croupous pneumonia. The causes, he says, are evidently manifold, and the exact cause can be determined in a given case only by careful and repeated examinations of the patient. The sequelæ consisted of empyema (five cases), abscess of the lung (two cases), endocarditis and pericarditis (four cases), relapsing pneumonia, pleurisy, bronchitis, otitis media and meningitis, parotitis, hæmorrhagic nephritis, thrombosis, and necrotics, colitis and abscess of the chest (each one case), carbuncle (two cases). The number of small abscesses found in the stage of gray hepatization in post-mortem examinations would incline one to believe that it is not alone the slow resolution, but perhaps more often a varying degree of this purulent tendency, which explains the fever.

The value of the Roentgen ray in detecting these conditions in the chest is variable; it is the common experience of a thickened pleura in this class of cases which renders the x-ray of less value. Given a previous consolidation without much thickening of the pleura, and the shadow is less uniformly dense than that of fluid in the pleura, so that under such circumstances a lobulated empyema or a full abscess-cavity is apt to stand out by its dense shadow in contrast to the less homogeneous shadow of the resolving pneumonia consolidation. Under similar circumstances an empty cavity is even more evident, surrounded by its wall. J. E. Talley (*Journal of the American Medical Association*, September 8, 1906).

CRYOSCOPY AND ELECTRO-CONDUCTIVITY IN MEDICINE.

The writer states that cryoscopy affords a means of comparing the osmotic concentration of one body-fluid with that of another, and of a body-fluid at one time with that at another. One is enabled in this way to determine the existence of renal disease as opposed to bladder-disease, or the existence of renal disease in a case of heart-disease, or the ability of the heart to withstand the strain of exercise (Koranyi). It also has a medico-legal value in the case of death from drowning—whether it is an absolute test remains to be seen. Cryoscopy does not, any more than any other means of diagnosis, enable one to say that a kidney must or must not be removed. It is futile to expect any mode of examination of the urine or blood to give an infallible opinion on such a matter.

Electro-conductivity in some cases may be used in place of cryoscopy for diagnostic purposes, but, as a rule, it is better used merely to amplify the results obtained by cryoscopy. Both cryoscopy and electro-conductivity may be used in the study of chloride retention in the body, and they afford a means of clinical diagnosis in the case of segregated urines which is not approached by existing means.

The study of the course of diseases by means of these physico-chemical methods seems to be a matter of some promise, but the writer believes that the interpretation of these results will, however, be a matter of some complexity. O. C. Gruner (Medical Chronicle, September, 1906).

CURETTING, INDICATIONS FOR.

The author gives a very full summary of the conditions under which curetting

may be employed, and of the mode of procedure which is most to be commended. Reminding his readers that the success of the operation depends upon the peculiar property of rapid regeneration possessed by the uterine mucous membrane, thanks to the presence of the chorion, and of the glandular *cul de sacs* left untouched by the instrument, he enumerates the various modes of action of the curette as being at times modifying and evacuant, at other times explorative or destructive.

The choice of instruments is a matter of some importance. The writer prefers, as a rule, blunt rather than sharp curettes, forcible scraping being sufficient, and cutting unnecessary, even when the tissue is fairly resistant. The operating case ought to contain two curettes, two pairs of vulsellum forceps, one pair of long dressing forceps, a sound furnished with a flushing apparatus, and a vaginal speculum, with the addition of a dilator and a set of Hegar's bougies if tents have not been previously employed. In puerperal cases very large blunt curettes on long handles are used, and the Pinard's instrument gives successful results.

Stress is laid upon the importance of cleansing and disinfecting, before curetting, as thoroughly as in preparing for a more serious operation, and general to local anæsthesia is to be preferred. Reserving bougies and dilators for urgent cases, the writer recommends the insertion of laminaria tents for some days before, beginning with a small size and introducing larger sizes daily until, on the fifth day, the operation takes place. Pain and nausea are combatted by means of injections of antipyrine and frequent hot compresses to the epigastrium. The introduction of a metal drainage-tube is advocated in septic cases, and of a gauze

drainage when a tampon is desired, either to be removed after forty-eight hours, and the patient in slight cases to be allowed to leave her bed on the eighth day. Douches of sterilized water, six on the first day, four on the second, and afterwards two, are prescribed.

Special caution is necessary in post-partum cases, where the uterine tissue is softened and attenuated, and in such circumstances the finger is to be preferred to the curette. Hæmorrhage is rare, is generally caused by the insufficient removal of diseased tissue, and is cured by a further application of the curette or the exploring finger. Adhesions leading to obliteration of the cervical canal, and consequent sterility, can only be caused by the scraping having penetrated too deeply into the sub-mucous tissue. After abortions the writer recommends curetting as a routine practice whenever the medical attendant has been unable to see personally that all the uterine contents have been expelled. Curetting is useful in chronic metritis, mucous polypi, and intrauterine fibroids; even salpingitis and other inflammatory affections of the adnexa will be helped by its employment, and finally the author recommends it as a prelude to every vaginal hysterectomy. Platon (*La Clinique*, April 27th, 1906; *British Medical Journal* August 25, 1906).

DIPHTHERIA, DEATH IN.

A study of the causes of death in 287 cases of fatal diphtheria has been made by the writer. Only about 25 per cent. of the patients succumbed to general diphtheric intoxication, and a little less than 25 per cent. to tardy paralysis. All the others—more than 50 per cent.—died in consequence of pulmonary lesions. The latter was the cause of death in all the infants and in 83 of the 139

cases in children between 1 and 3, and in 16 of the 85 cases in children from 4 to 10, which included also 33 cases of fatal tardy paralysis. The 17 fatal cases of diphtheria in patients over 10 included 9 deaths from early general intoxication, 3 from tardy paralysis, and 3 from tardy sepsis. He remarks that far too little attention has been paid hitherto to secondary infection in diphtheria, and yet its importance as a factor in the fatal termination is emphasized by the above figures. Diphtheria antitoxin had been administered in every case. He is convinced that the only way to bring the diphtheria mortality actually under control is to supplement the diphtheria antitoxin with an effectual antistreptococcus and antistaphylococcus serum. T. Fischer (*Hygiea*, Vol. lxxviii, No. 9; *Journal of the American Medical Association*, September 8, 1906).

EMACIATION, TREATMENT OF.

The author finds that leanness may be due to various causes. It is sometimes apparently hereditary, but may arise as a primary or secondary condition. The one great cause, excluding certain emaciating chronic diseases, is insufficient amount of food, which may be due to loss of appetite from physical or mental causes, or the result of faulty dietetic habits, which are sometimes handed down in families from generation to generation. Frequently it results from ignorance of the nutritive significance of particular foods, or is the effect of eating but one or two meals a day in persons not fitted for such a régime. It may be due to poverty or nervousness, sexual neurasthenia or hysteria. These latter predominated, together with digestive abnormalities, in the majority of the writer's cases, and he has also ob-

served attendant arteriosclerosis and insomnia, which are given by Cabot as causes, in a number of his cases.

To a second group of causes belong the gastro-intestinal disorders, mechanical or secretory, which he observed in nearly all his patients. The author thinks that there is no doubt that the foundation of these disorders is often laid in the artificial feeding of infants. He also mentions the improper metabolism of food and increased oxygenation in the blood which can not be precisely defined.

In the treatment, therefore, it is advisable to make thorough examinations for all possible conditions, and to ascertain to what degree the stomach and bowel will bear forced feeding, and what food will be best taken, digested, and absorbed. With these points determined he maps out a diet list containing from 2200 to 2500 calories, and gradually increases this to from 3800 to 4500 calories. This extreme diet is divided by him into 250 grains of fat, 150 of albumin, and 400 of carbohydrates, amounting altogether to 4,580 calories. He also gives tonics, and pushes them to the physiological limits, if necessary. In nervous individuals he uses nerve-sedatives, but never narcotics. From time to time he notices the excretory activity of the kidneys and compares it with the water intake, which should be from 2000 to 3000 cubic centimeters. Exercise is lessened or increased, according to the demands of the case, and tepid baths, cold rubs, massage, and electricity are also advised.

Under this treatment patients often gain very rapidly in weight, calling sometimes for reduction in diet. The chronically underfed usually require from

two to six months' careful treatment of this kind. L. Breisacher (*Journal of the American Medical Association*, August 25, 1906).

GASTRIC ULCER AND CANCER.

The writer distinguishes four stages in gastric ulcer development, and would expect cancer, when it did develop, to appear in the third or fourth stage, or often to be the fourth stage. In the first stage of ulcer there is unusually good appetite, with nutrition at par or even excessive; pain two to five hours after meals, when the stomach is empty or emptying itself. These patients present themselves to be relieved of pain, which, they say, comes after meals, but which, in reality, is premeal pain. The second stage may be established some months later, following several intermissions with recurrences, each increasing more or less in severity; appetite good, though perhaps not above normal; less satisfaction follows the hearty meal; pain is severe, and comes sooner after food. In the third stage desire for food may remain, it may be fair or decreasing, but the patient is afraid to eat because of distress, pain, gas, vomiting, sour eructations, bloating or sour burning stomach; there is but short food-relief if any; perhaps obstructive symptoms; loss of flesh usual, and even cachexia may be present. Constipation, marked in all stages, is usually obstinate here. When the undoubted fourth stage (cancerous) is reached, the whole picture is intensified. The appetite is poor or absent, or even the smell of food may be repulsive. Meats and fats are especially avoided. Emaciation follows rapidly, often more so than can be accounted for by loss of appetite (toxic or perhaps food delay); strength drops from under the patient, languor is

intense, and he exerts himself with difficulty; the anæmic cachectic condition develops more and more clearly. Christopher Graham (Boston Medical and Surgical Journal, August 23, 1906).

GOITER, OPERATIVE TREATMENT OF.

The author reported to the last congress of the German Surgical Society the results of a third series of 1000 operations for the removal of goiter, practiced between November, 1900, and August, 1905. Of these operations 7 only were fatal. The highest rate of mortality naturally occurs, it is stated, in cases of malignant goiter, and of the 36 subjects of this disease 3 died, the fatal result, however, being due not directly to the operation itself, but to circulatory disturbances in the brain caused by ligation of the carotid, and to the results of extensive resection of the trachea and the œsophagus. A single fatal result from secondary hæmorrhage occurred in a group of 52 cases in which the operation was performed for the treatment of exophthalmic goiter. Death followed the operation in 3 of 904 cases of ordinary goiter; in 1, from secondary bleeding in a subject of congenital myxœdema; in another, from pneumonia when the wound in the neck was quite healed; and in the third as the result of advanced myocarditis. These results, the writer states, prove that the actual operation for the removal of goiter may, provided the heart be quite sound, be practiced without danger to life, even when the swelling is very large and extends into the thorax, and when the patient is of advanced age. These striking results of the operative treatment of so grave an affection as goiter are attributed to the great improvement that has of late years been effected in surgical therapeutics by the adoption of

aseptic methods. It is asserted by the writer that in not one of this series of cases did he note any symptoms of really serious infection, and that of 293 cases which were treated in a private hospital there were 7 only in which signs of local wound-infection were observed, and that the average duration of the stay in the building was ten days.

A description is given of the author's methods of preparation and of dressing, which seem very simple, and are, as far as possible, aseptic, no antiseptic solution being allowed to come into contact with a fresh and clean wound. Much attention is paid to careful and complete hæmostasis at the end of the operation. Temporary drainage of the wound has been found advisable for the removal of effused blood and serum, but the drainage-tubes are removed after the cessation of discharge, usually about twenty-four hours after the operation.

The operative prognosis in the removal of goiter depends very much on the condition of the important organs, especially the heart. Cardiac insufficiency and lowered blood-tension are regarded as important contraindications to operative treatment. These complications, it is pointed out, are often absent in early stages of goiter, and the practitioner is earnestly warned against procrastination in considering surgical intervention, and against wasting time in internal treatment by iodine and thyroid extract, which latter preparation, in Kocher's opinion, does much more harm than good. The cardiac complication—the so-called goiter heart—plays a prominent part in Basedow's disease; consequently, if this could be excluded by an early operation, the surgeon would be able to improve the prognosis of his treatment of the general affection. It is, according to the writer, a fatal error with

both medical and surgical practitioners to regard operative intervention in Basedow's disease as a last refuge. It is hardly necessary to insist on the importance of early operation in cases of malignant goiter. An early diagnosis of the nature of the disease is certainly not free from difficulty; but the surgeon should bear in mind that operative intervention is unconditionally indicated in every instance of rapidly-growing goiter, and also whenever a slow-growing and apparently passive thyroid tumor suddenly takes on rapid and excessive growth.

In concluding his paper, the author points out that notwithstanding the favorable auspices of radial surgery of the thyroid, there is always a possibility of the development of slight hypothyreosis, even after partial strumectomy. In order to prevent this, the surgeon should endeavor to leave a sufficient amount of sound thyroid tissue, and, with this object in view, modify, if necessary, the usual plan of operation, and in cases of extensive excision to supplement his operative treatment by the internal use of thyroid extract. Kocher (Zentralblatt für Chirurgie, Nu. 28, 1906; British Medical Journal, September 8, 1906).

GONORRHOEA IN WOMEN, SURGICAL TREATMENT OF.

Earnest effort should be made to cure acute gonorrhœa in women before it has entered the uterus. With the exception of the accumulation of a large amount of pus in the cul-de-sac, non-surgical treatment is the best in acute gonorrhœal tubal involvement. In chronic gonorrhœal pyosalpinx, ablation of the tubes is the best treatment. The vaginal route, in most cases, is preferable to the abdominal route for this work. The ovaries are not to be sac-

rificed unless they are hopelessly involved, or the patient is more than forty years of age. Both tubes should always be removed. The body of the uterus may be retained, if not adherent or considerably involved. Cul-de-sac drainage is advisable in both vaginal and abdominal ablations. J. Wesley Bovée (American Journal of Surgery, August, 1906).

HÆMOPTYSIS, TREATMENT OF.

The writer refers to the view of the ancient authorities that hæmoptysis is a precursor and even the cause of pulmonary tuberculosis. More recent authorities believe that in most instances symptoms precede the hæmoptysis, and that the latter is the result and not the cause of tuberculosis. Fatal hæmoptysis has been shown to be usually due to the rupture of an aneurism of a branch of the pulmonary artery. Other things being equal, the pulmonary pressure is directly determined by the amount of blood supplied to the right ventricle. Theoretically, hæmoptysis may be controlled by increasing the coagulability of the blood, by lessening the rapidity of its flow, by reducing the volume of blood in the weakened vessel, by lowering the blood-pressure, or by constricting the affected vessel. Practically, the author suggests that the blood-pressure be frequently observed, that morphine be given to quiet the patient and equalize the blood-pressure. When hæmoptysis comes suddenly, amyl nitrite should be given to reduce the blood-pressure. Sodium nitrite, one grain, with or without nitroglycerin, may be given if amyl nitrite cannot be used. Aconite may be combined with the other measures suggested in cases in which there is fever. L. Brown (American Journal of Medical Sciences, August, 1906).

HÆMORRHAGIC CONDITIONS, TREATMENT OF.

Following the suggestion of Wright and Paramore, the writer has treated several cases of hæmophilia and purpura with lactate of calcium, with markedly good results. As much as sixty grains was given in single doses, but the average dose was fifteen or twenty grains, three times a day. The most constant feature of the blood-examinations, which were frequent, was the reduction in number of the blood-plates, which has been noticed also by others, but has hardly received due attention. Sudden reduction or disappearance of the blood-plates was observed in some instances to precede a hæmorrhage, and the relationship between the small number of plates to the bleeding was very strongly suggested. This reduction also furnishes a valuable aid in the diagnosis of hæmophilic hæmorrhage, as in other forms of hæmorrhage they are increased. A leucocytosis is also usually present in other forms, while it is uniformly absent in the anæmia of purpuric hæmorrhage. J. W. Coe (*Journal of the American Medical Association*, October 6, 1906).

HEART-BLOCK AND STOKES-ADAMS' DISEASE.

Heart-block occurs in every case of Stokes-Adams' disease at the time of the seizures. Partial or complete block is present in the majority of the cases between the seizures. There are at least two factors of moment in every case of Stokes-Adams' disease: organic changes in or near the bundle of His, and nervous influences reaching the heart and increasing or diminishing the functional capacity of the bundle, viz., the effect of swallowing in depressing conductivity. Nervous influences can change a partial

into a complete block. There is at present no entirely satisfactory explanation of the occurrence of ventricular stoppage during complete heart-block. Sudden physical stress on the ventricular wall may account for it in some instances; increased auricular frequency in others. John Hay (*Medical Chronicle*, September, 1906).

HODGKIN'S DISEASE AND GLANDULAR TUBERCULOSIS.

The tubercle bacillus can produce lesions in the lymphatic system which clinically are identical with true pseudo-leukæmia. The glands thus affected may resemble such growths as lymphosarcoma, owing to absence of caseation. The lesions microscopically are not typical of tuberculosis in these cases. The tubercles are endothelioid, without giant cells, presenting some bacilli, but no caseation, but in some places hyaline degeneration. Numerous and hyperæmic vessels are seen in all these glands. The endothelial cells in these tubercles are derived from the linings of vessels, and are very apt to be mistaken for sarcoma cells. The inoculation of portions of the diseased glands in the animals showed that the lesions were due exclusively to the tubercle bacilli. The tuberculin test is useful clinically in determining the diagnosis of these cases. O. Cignozzi (*La Riforma Medica*, August 11, 1906; *New York Medical Journal*, September 8, 1906).

INCONTINENCE OF THE URINE.

The involuntary discharge of urine is normal in the young infant. It becomes a voluntary function at a later age, the time depending largely upon the child's training. In most children, with the right kind of management, it may be controlled during the waking

hours by the tenth month. During sleep it continues to a later period; and while in many cases it may be under perfect control at the completion of the second year, the author does not regard the loss of control as abnormal until the third year is completed. If during the second year the child shows a tendency to frequent urination and involuntary passage of urine during the waking hours, with habitual incontinence at night, preventive measures should be adopted. There may be anatomical or physiological abnormalities, such as vaginitis, an adherent clitoris in girls, phimosis in boys, thread-worms in the rectum, constipation, stone in the bladder, cystitis (a very rare condition), and hyperacidity of the urine (a very common one). The diet may play a part. The use of highly nitrogenous food in large amounts, or a diet rich in sugar, may lead to changes in the urine sufficient to cause the trouble. The presence of adenoid growths in the nasopharyngeal vault is supposed by some writers to cause enuresis. As a result of the diurnal and nocturnal incontinence, the bladder may never have developed, and its capacity may be greatly reduced. Obviously, when such is the case, incontinence will be noted both day and night. After all possible dietetic and peripheral causes have been eliminated, about 90 per cent. of the cases remain. These are due to a neurosis, and are not dependent upon any discoverable pathological condition, and should be treated accordingly: A light, dry supper; early retiring; to be awakened during the night to urinate; lightly covered at night; sleeping, if possible, on the right side. Among the drugs the author mentions atropine; while in weak, poorly nourished children strychnine

may be added to iron or oil tonics. C. G. Kerley (Boston Medical and Surgical Journal, August 16, 1906).

INFANT-FEEDING, SODIUM CITRATE IN.

The important question as regards the indigestible proteids of cow's milk in infant-feeding is not how to reduce them and to sustain life, but how to increase the proteids and to maintain unimpaired digestion. The writer gives his experience with the use of sodium citrate in the solution of the problem. He has employed it in more than fifty cases in private and hospital practice, which, with other records available, make a total of 112 cases, covering nearly all conditions of milk-dyspepsia. He began using the citrate in cases in which varying milk-mixtures had been used with poor success, and as he found that a larger proportion of milk could be borne with the citrate than with any other modification known to him, he used it more and more freely. He gives it in a watery solution, adding enough to represent one, two, or even three grains to each ounce of milk in the feeding mixture, according to the requirements of the case. Vomiting of curds is one indication for the giving of the higher amount. As toleration is established, the amount of citrate is reduced to one, one-half, or one-quarter grain to the ounce of milk until it can be discontinued. In no case has the writer seen any reason to regret the use of the method; its simplicity recommends it, especially in dispensary and out-patient practice, and in private practice it affords another rational method of infant-feeding. A. C. Cotton (Journal of the American Medical Association, October 6, 1906).

INFANTILE CONVULSIONS, CAUSATION OF.

As predisposing causes of infantile convulsions may be mentioned age, heredity, and rickets; as direct causes, (1) cerebral irritation either from disease, traumatism, or shock; (2) reflex disturbances, such as dentition, gastrointestinal disorders, worms, peripheral nerve-irritation, such as earache or spasm of the glottis; (3) less common forms, such as at the onset of acute specific fevers, congenital heart-disease, and poisoning from a variety of causes; (4) the fits may be epileptic, or the result of a fright or profound emotion. In most cases more than one of these causes is at work, some underlying condition being present, which renders an attack of convulsions possible on very slight provocation. H. H. Scott (Practitioner, August, 1906).

INTESTINAL OBSTRUCTION, PATHOLOGY OF.

The constitutional symptoms of intestinal obstruction have been regarded as due to reflex nervous action, or to intoxication by absorption of intestinal contents, or to an actual invasion of the system by microorganisms themselves. The authors have approached the question on experimental lines. Fluid contents were taken from various segments of the intestinal tract of the dog and rabbit. These contents were diluted with saline, centrifugalized, and filtered. The filtrate was injected into the veins of rabbits. It was then found that the most toxic filtrate was obtained from the small intestine, and that the filtrate from its upper part was the most potent. This result indicates that the toxicity varies inversely with putrefactive changes.

These results accord with the facts of clinical cases in man and experimental

obstruction in animals. The most rapidly fatal cases are always those situated high up in the small intestine. The abdomen of a rabbit was opened and the gut ligatured high up. The animal was killed and examined in twenty-four hours, when the intestine above the obstruction was found distended by a very large quantity of fluid. This fluid was centrifugalized and filtered, and experiments made by intravenous injection into rabbits. These experiments, as compared with the results of injecting preparations of normal intestinal contents, show that the occluded intestine contains about four times the amount of toxic matter present in a normal case.

Similar experiments were carried out in dogs. In nine of these cases cultures were made of the blood. In three cases the bacillus coli was obtained, and in six cases an anærobic organism grew. The number of organisms was clearly very small. In view of the nature of the growths obtained, and in view of the fact that the organisms can be cultivated from cases which recover on relief of the obstruction, the authors discard the theory of septicæmia as a complete explanation of the symptomatology of intestinal obstruction. They conclude that the theory of intoxication is, in the present state of our knowledge, the only admissible one. H. Roger and M. Garnier (*La Presse Médical*, May 23, 1906; *Medical Chronicle*, September, 1906).

LIVER ABSCESS AND ASCARIS LUMBRI-COIDES.

In a large proportion of cases liver abscess is not associated with dysentery; and the assumption that dysentery has been present at some time in nearly all cases and the patient has overlooked or forgotten it is not justified. Any of the larger animal parasites entering the bile-

duct and its branches in the liver may well be the direct or indirect cause of abscess, but such biliary migration is not necessary; any parasite remaining in the intestine and causing inflammation or wounding of the mucosa may be responsible. Tape-worms, hook-worms, and whip-worms would all deserve consideration in this connection. The *Ascaris lumbricoides* is probably not a mere unusual and extraordinary cause of liver abscess, but is an important and frequent cause, possibly, after dysentery, the most frequent one. J. F. Leys (*Journal of the Association of Military Surgeons*, September, 1906).

LUDWIG'S ANGINA.

The disease known as Ludwig's angina affects the mouth, throat, neck, sub-mandibular, and parotid regions. It was first described by Ludwig in 1836. Semon claims that the various diseases classified as acute œdema of the larynx, erysipelas of the pharynx and larynx, phlegmon of the pharynx and larynx, and angina Ludovici were variations of the same acute septic inflammation, and represent various degrees of virulence. The primary location and subsequent development depend upon the site of the original breach in continuity admitting the infecting agent.

Of the author's twelve cases it was found that some were due to streptococci, some to staphylococci, and some to pneumococci, while others showed a mixed infection of one or more of these and other germs. Therefore, even when the clinical picture corresponds, the bacterial agent may vary. The lesion commonly starts from the mouth or throat, but usually does not involve the nasal cavity. Points of entrance may be in the tonsil, in the submaxillary gland or duct, any part of the buccal or pharyngeal

mucous membrane, and (a favorite starting point) a tooth. This last is so well known that dentists frequently refuse to extract infected teeth, for fear of being held responsible for the subsequent spread of the infection. The starting point varies. It may be the floor of the mouth or the periosteum of the lower jaw, etc., but the progress of the infection is always along the connective-tissue structures, and not by the lymphatics. The deep fasciæ offer marked resistance; therefore the skin may appear normal, though the characteristic "wood-like" hardness shows itself easily. The deep tissue planes and the muscles enclosed by them necrose, pus appearing only during the later stages. Progression may produce infection across the median line, to the floor of the mouth, down to the clavicle and sternum, or inward to the pharynx and larynx. As a rule, a brawny swelling is noted at the floor of the mouth, pushing the tongue upward, or œdema of the larynx and epiglottis is found. Sinuses discharging foul, ichorous pus may appear, particularly near the posterior teeth. At the outset the constitutional symptoms may be mild, and even in severe or fatal cases the temperature may remain between 101° and 102°; rarely hyperpyrexia is noted.

The cases should be treated as infectious; some resemble erysipelas, and groups of cases are common. The diagnosis may be difficult, as surface inflammations, inflammations of neighboring lymphatic structures (such as tonsil, glands, etc.), tubercular or syphilitic ulcerations come into question. The onset may be insidious, rarely fulminating. Of chief importance is the pathognomonic "board-like" swelling at the base of the tongue, submaxillary or parotid region with either normal skin or reddish.

tender covering. The swelling may extend widely upward or downward, chills occur, and abscesses may form. Fatal cases usually end before the twelfth day, from sepsis; a short course is often due to œdema of the larynx. Early and radical incision, before the formation of pus, is the only safe treatment. A median incision from the middle of the jaw to the hyoid bone, down to the mucosa of the mouth, is indicated when the swelling is beneath the jaw. If laterally situated, multiple incisions through the skin and then bluntly through muscle and fascia, must be made, drainage tubes being inserted. Primary anaesthesia only is required. For œdema of the glottis, ice, cocaine, adrenalin spray, and high tracheotomy may be needed. Twelve cases, with a mortality of 40 per cent., are reported. G. G. Davis (*Annals of Surgery*, 1906; *American Journal of Surgery*, September, 1906).

MENSTRUATION AS SOURCE OF INFECTIONS AND INTOXICATIONS.

A special study of various morbid manifestations liable to accompany menstruation has been made by the writer. He regards it as extremely important in the pathogenesis of numerous febrile affections, and thinks that there is no doubt that the menstruating uterus may occasionally prove the source of infection for actual septic affections. Fever accompanying menstruation is by no means uncommon, and is the result of absorption of bacterial toxins or of products of decomposition through the menstruating genitalia. The action of toxins is also evident in the numerous affections of the skin and nerves which may be observed accompanying menstruation, such as erythema, urticaria, herpes zoster, and neuralgias. Still more important is the fact that infection or intoxica-

tion from the menstruating genital organs is liable to induce various forms of rheumatic affections, including actual polyarthritis and cardiac affections of a rheumatic nature. The course of the acute menstrual articular rheumatism does not differ in any respect from the classic type except, possibly, in its unusual mildness in some cases. In eight of the fifteen cases observed only the joints of the feet were swollen and painful, and the rise in temperature was slight and transient. The heart was not perfectly sound in any of these fifteen girls; in all a valvular defect was apparent, quite serious in some. The changes in the heart were severe, out of all proportion to the mildness of the rheumatic involvement of the joints.

The experiences related, the writer thinks, establish the fact that menstrual infection or intoxication of a rheumatic nature may be the insidious and unrecognized origin of a valvular affection. Some typical examples of this febrile menstrual rheumatoid affection and of septic menstrual fever are related in detail. The only source for the staphylococci found in the blood in one case reported must have been the menstruating uterus. As menstruation ceased the symptoms subsided. In such cases there was none of the usual leucocytosis during menstruation. These septic cases are rare, but undoubtedly exist, and may explain certain cases of "cryptogenic sepsis." Patients who have had two, three, or more recurrences of the menstrual rheumatoid affection have been free from them in his experience when the vagina was regularly rinsed twice a day at least with some antiseptic fluid. This is especially necessary when an odor suggests a putrefactive process. Frequent careful cleansing of the external genitals is important in prophylaxis of

all these morbid menstrual phenomena. G. Riebold (Deutsche medizinische Wochenschrift, Bd. xxxii, Nu. 29; Journal American Medical Association, September 15, 1906).

NEURALGIA, NASAL DISEASE AND.

Nasal neuralgia, *per se*, does not necessarily follow from disease of the nose itself; the pain there located may be due to changes in other regions, as the Gasserian ganglion, etc., although the nose itself, the writer states, may be diseased, as a consequence rather than as a cause. Of all the disorders of the nasal chambers, exclusive of sinusitis, hypertrophy of the turbinates, especially the middle one, is the most frequent cause of neuralgia. Pressure of the turbinate against the septum may cause both facial and supraorbital neuralgia, the latter from irritation of the nasal branches of the fifth nerve, and aggravated if there is also sinus involvement. Acute rhinitis with excessive congestion and intranasal swelling, especially if sinusitis co-exists, may cause neuralgia, and in the later stages, when there is purulent discharge with obstruction, transient neuralgic pains are not infrequent. While slight irritation of the nose may cause enough nervous instability to give rise to neuralgia, in the majority of cases, as shown by one reported by Lermoyez, actual nerve-changes are present. Neuralgia from maxillary sinus disease is probably less frequent than that from frontal sinusitis, though the nerves are more exposed. The pressure from retained morbid secretion, owing to the anatomic conditions, is rather less common than in frontal sinus disease, but any severe facial pain should direct attention to the maxillary sinus. Acute inflammation of the frontal sinus is always accompanied with headache, and often with severe

neuralgia. In all forms of frontal sinusitis, from whatever cause, supraorbital neuralgia of the affected side is not infrequent. Rarely the pain is occipital, and then the diagnosis is liable to be confused. Empyema of the ethmoid cells is more likely to cause headache, but may give rise to occipital and frontal neuralgia, and the latter may be due also to sphenoidal sinusitis, though here also headache is most common. Lastly, the writer mentions neuralgia associated with combined or multiple sinusitis and intranasal disease, which is the most bizarre and confusing of all. One cannot be sure, in these cases, of its relation to any particular changes in the nose or sinuses until all the affected parts have been approximately restored to their normal conditions. L. S. Somers (Journal of the American Medical Association, September 8, 1906).

OCULAR INJURIES FROM FOREIGN BODIES.

Radiographic examination should be made in every case of ocular injury from a foreign body in which lowered visual acuity is a result of the accident. Extraction of a foreign body through a small meridional incision in the sclera, the magnet point not introduced into the vitreous, causes no greater traumatism than follows drawing the metal through the vitreous into the anterior chamber. Retinal detachment is not a logical result of a scleral incision for the extraction of a body from the vitreous chamber. The exudation associated with a long-retained foreign body is probably a more frequent cause of detachment. Introduction of the magnet point into the vitreous increases the traumatism to the eyeball, encourages retinal detachment, and often leads to shrinking of the eyeball and to iridocyclitis.

Bodies located above the horizontal plane of the globe or at the posterior part of the vitreous chamber usually present greater difficulties in extraction, owing to the early formation of a fibrous exudate around the imbedded mental, than bodies at the bottom of the vitreous near the equator, to which position they fall after penetration. W. M. Sweet (Journal of the American Medical Association, September 8, 1906).

OTITIS MEDIA PURULENTA, BLOOD-EXAMINATION IN.

The main value of the blood-examination in suppurative diseases of the ear lies in the leucocyte count, simple and differential. It is necessary to make repeated examinations to determine the progress of the process. Clinical symptoms must be given greater weight than the mere leucocyte determination. In deep suppurations, such as lateral sinus thrombosis without mastoid symptoms, blood-tests are invaluable. Blood-tests will prevent the faulty diagnosis of malaria or typhoid fever in suppurative diseases of the ear. In doubtful cases no possible source of light must be neglected and the examination of the blood will sometimes clear the situation. L. M. Hubby (The Laryngoscope, August, 1906).

OVARIAN CYSTS COMPLICATED BY PREGNANCY.

Ovarian cyst, according to the author, is not an uncommon complication of pregnancy. It, however, is a dangerous complication of pregnancy, and this danger varies with the kind of treatment instituted for its relief. Removal of the cyst by laparotomy before labor yields the best results for mother and child. The mortality in laparotomies, during pregnancy, for removal of an ovarian cyst is

not greater than in the non-pregnant patient. There is no definite elective period in which laparotomy should be performed. The case should be operated as soon as the diagnosis is made.

Dangerous complications are more frequent in ovarian cysts with pregnancy than in those where pregnancy is absent, and are especially dangerous in the early puerperium.

Tapping an ovarian cyst gives only temporary relief, is not curative, and is a dangerous procedure. It should only be employed in those cases of enormous distention where operation is absolutely refused. Induction of labor and craniotomy entail absolute death of child, and are of great danger to mother. If, for any reason, treatment by other means than laparotomy before labor becomes necessary, it should be followed by removal of the cyst as early in the puerperium as possible. C. L. Patton (Surgery, Gynecology and Obstetrics, September, 1906).

PERICARDITIS, RELATION OF, TO ENDOCARDITIS.

In the writer's opinion, the question as to the possibility and mechanism of transmission of inflammations of the pericardium to the endocardial lining, and vice versa, can be solved only experimentally, and not by clinical and pathologico-anatomical observation. In dogs and in rabbits he exposed the pericardial sac by an aseptic incision and injected cultures of pneumococcus, bacterium coli, artificially rendered less virulent than ordinarily. The object was to induce a slow, subacute, or chronic pericarditis. The wound was closed and the animals were watched. Autopsies were performed two months later. Of the fifteen animals operated upon, three died a few days afterwards.

In the survivors there was always a chronic pericarditis, but even microscopical examination of the aortic valves failed to show any lesions in these structures. The theory of propagation of pericarditis to the endocardium should therefore be accepted with much reserve. The two processes which coëxist so frequently clinically should, in his opinion, be regarded as two distinct localizations, occurring simultaneously or successively, but always independently of each other, as the result of the same general infectious cause. Livierato (*Gazzetta degli Ospedali e delle Cliniche*, September 2, 1906; *New York Medical Journal*, September 29, 1906).

PITYRIASIS RUBRA PILARIS, ARSENIC IN.

Pityriasis rubra pilaris possesses a definite entity in the minds of the majority of dermatologists. Some attribute to it an identity with lichen ruber acuminatus. Its position is, therefore, still *sub judice*. Lichen planus, lichen verrucosus, and lichen acuminatus are at the present day given a common relationship, the two latter being regarded as subforms of lichen planus. All are reputed to be favorably influenced by arsenical treatment in every form, a clinical fact which serves many to definitely remove lichen acuminatus from pityriasis rubra pilaris. The latter disease is regarded to be unfavorably influenced by arsenical treatment in every form. Experience in three cases conforms to this in respect to the internal administration of arsenic and the hypodermic injection of sodium arsenate. The disease is favorably influenced by hypodermic injections of atoxyl and, to a lesser extent, by cacodylic acid. Lotions of tar, dietary regi-

men, and intestinal antiseptics are very useful adjuvants.

Pityriasis rubra pilaris is, from a clinical and therapeutic standpoint, well differentiated from lichen ruber acuminatus. It is essentially a folliculitis, and the chief pathologic change is an intra-follicular keratosis. In one case, in which the pathological examination was made during the clinical stage of keratosis follicularis, hair-follicles were found in various stages of extrusion upon the free surface of the skin, which constituted a unique pathologic finding. Contrary to the observations of some authors, the arrectores pilorum are constantly in a state of hypertrophy, which is in natural accordance with the clinical symptoms, rigor, and cutis anserina, which accompany the affection. M. L. Hejdingsfeld (*Journal of Cutaneous Diseases*, August, 1906).

PLACENTA PRÆVIA, TREATMENT OF, BY CÆSAREAN SECTION.

The writer considers that in placenta prævia certralis, when the child is alive and viable, the procedure indicated is Cæsarean section. The life of the unborn babe (when viable) is as much to be thought of as that of the mother. The operation of Cæsarean section can be done more quickly than dilatation, version, and extraction, and the danger of ruptured uterus and uncontrollable hæmorrhage can be better overcome. The author states that an obstetrician should not attempt a version unless he is capable of doing a Cæsarean section. A. P. Condon (*Surgery, Gynecology and Obstetrics*, September, 1906).

PNEUMONIA, TREATMENT OF.

The author is convinced that the abnormally rapid pulse in certain fatal cases of pneumonia is due to the direct

action of the pneumonia toxin on the heart, especially on its nervous apparatus. He has treated exceptionally severe cases of pneumonia with 4 grams of an infusion of digitalis in 24 hours for three successive days, when commenced with the early symptoms. Caffeine seems to answer a similar purpose with less danger of cumulative effects. It acts on the nerve-centers regulating the heart-action and has proved remarkably useful in the severer cases. The author used a 10-per-cent. solution, injecting it every two or three hours, to a total of 0.6 to 1.5 grams in the course of 24 hours. In his experience the caffeine proved remarkably effectual in all cases in which the pulse was not over 130. The caffeine did not affect the fever. Its action can be supplemented with camphor or alcohol at need. A. Fraenkel (*Therapie der Gegenwart*, Bd. XLVII., Nu. 1-2; *Journal of the American Medical Association*, August 11, 1906).

PNEUMOTHORAX.

Fifteen cases of pneumothorax are reported by the writer, and he states that of the ordinary signs of pneumothorax, or, more properly speaking, of pyopneumothorax, it was found that splashing had been present in thirteen cases, not tried for in one, absent in one. The author thinks that as the sign is so constant, so easily obtained, and so entirely reliable, it should be more often tried for than it is when percussion draws attention to any peculiarity within the chest not easily explained. The heart was notably displaced in the opposite direction in all but one case, the average displacement being a little over three inches. Notable cyanosis was present in thirteen of the cases. Rapid pulse was a practically constant feature. The tem-

perature was generally elevated, but was doubtless more influenced by the tuberculosis or an associated infection than by the pneumothorax in most cases. Of the fifteen cases the cause was tuberculosis in eleven cases, in two of these in conjunction with attacks of acute pneumonia. In one it followed a bronchopneumonia. One case occurred from the wounding of the lung by the needle used by a house physician in injecting antistreptococcic serum for a supposed sepsis, the real cause of the chill being an acute pneumonia, followed by crisis on the ninth day, and an empyema later—a pyopneumothorax. In two cases the pneumothorax was due to a gunshot wound of the left chest, hæmothorax being also present. Eight of the cases were upon the right and seven on the left side of the chest. Twelve cases were fatal. J. N. Hall (*Medical Record*, August 25, 1906).

PRETUBERCULAR CONDITIONS.

The so-called pretubercular stage of phthisis is only a latent unrecognized tuberculosis. A sharp line between the pretubercular and the incipient stages of phthisis cannot be drawn. The pretubercular stage is characterized by a progressive loss of weight, accompanied with general malaise and sometimes acceleration of the pulse. When these symptoms are present without other definite signs, a latent tuberculosis should be suspected. Chest-measurements and vital capacity should then be carefully tested. Special attention is called to the relation of chlorosis and phthisis. There is a fairly constant association of anæmia with imperfect chest-development and progressive loss of weight. Recognition of these signs as marking the initiation of tuberculosis should lead to a vigorous treatment to restore the

nutrition and improve the condition of the blood. The writer recommends the hypodermic administration of iron and arsenic, using the green ammoniated citrate of iron and arsenate of soda. Such a treatment is followed by a prompt gain in the hæmoglobin, an increase of 5 to 10 per cent. being often noted in a week. Attention is called to the change in the pulse noted by Wells and Loomis upon change in the position of the patient, and there is a relative feebleness of arterial pressure. Emphasis is laid on the fact that no single sign is in itself conclusive, but several of them taken together constitute a danger-signal which should lead to prompt treatment. The hypodermic use of the remedies named, associated with pure air, good food, and sensible hygiene, will accomplish a great deal. B. R. Shurly (*Journal of the American Medical Association*, June 16, 1906).

PROSTATECTOMY, SOME MOOTED QUESTIONS PERTAINING TO.

The author believes it may be said that all patients should be operated on, where an absolutely aseptic catheterization for any length of time is not possible. To this class belong those who cannot carry out catheterization themselves on account of senile tremor, blindness, or some similar infirmity. There is also that large group in which catheterization is necessary often, or is associated with pain or hæmorrhage, or is rendered difficult by false passages, and so forth. In all instances where vesical calculi are present at the same time, and result from the hypertrophy, operation should be done; otherwise recurrences of the calculi will take place, and it may be said that prostatectomy is no more dangerous than lithotrity under these circumstances. Finally, all patients who have

cystitis should be operated on, and last, but not least, all those in whom there is the slightest suspicion of malignancy, and where the disease is apparently in its early stages, should be radically treated. Perhaps the ever-advancing development of surgery will make prostatectomy such a safe operation that the scope of its indications may be enlarged; but in the meanwhile the excellent work being done will be injured if surgeons persist in persuading patients, who can live comfortably for many years with a catheter life, to undergo an operation the good results of which cannot always be guaranteed. C. G. Cumston (*Surgery, Gynecology and Obstetrics*, September, 1906).

PULMONARY OEDEMA.

Cases of pulmonary cedema are divided by the author into acute, subacute, and chronic or persistent. Acute cedema of the lungs may be an outcome of most of the more severe forms of both acute and passive congestion of the lungs; it is especially prominent in death by asphyxia brought about by pneumonia and acute bronchitis. As a rule, it follows the laws of gravitation and the physical signs are to be sought for at the bases of the lungs. In acute bronchitis, however, it tends to be localized in the middle and upper parts of the lungs. Its occurrence is facilitated by a hydræmic condition of the blood, and it is often the cause of death in acute nephritis. It may also be caused by sudden mechanical obstruction to the blood-vessels of the lung, thrombosis, or embolism, and it may follow the administration of an anæsthetic—more often ether than chloroform. The most constant symptoms are dyspnoea, straining cough, and increasing cyanosis. The only certain diagnostic phenomenon is a copious,

thin, watery expectoration. Orthopnoea generally exists. Acute œdema is always of grave significance. The most valuable remedies consist in cardiac stimulants—strychnine, digitalis, and strophanthus. Oxygen is of service, and dry cupping may be tried. Subacute œdema is often one-sided; it is likely to occur in patients suffering from emphysema, myocardial degeneration, or uncompensated valvular disease.

Treatment consists in giving digitalis and strychnine. Signs suggestive of unilateral subacute œdema are sometimes met with in the later stages of influenza. Subacute œdema sometimes occurs after the withdrawal of a pleuritic effusion, or is due to the existence of pleuritic adhesions. Chronic or persistent œdema occurs in old people with a weak heart or emphysematous lungs, in anæmic conditions, etc. F. J. Wethered (*British Medical Journal*, August 18, 1906).

PULMONARY TUBERCULOSIS, ANTI-STREPTOCOCCIC SERUM IN.

About one case out of every four or five may be reasonably expected to exhibit a pronounced diminution of temperature by the end of a week or ten days after the administration of anti-streptococcic serum. The remaining cases do not show any bad results from its employment, other than due to the occasional intolerance of the system for the serum of a horse. This so-called reaction, which is independent of the specific nature of the remedy, but common to all other serum preparations, bears no relation to the ultimate results obtained. Some cases show marked improvement in spite of temporary discomfort in the way of chills, fever, urticaria, and painful swelling with stiffness of the joints; while others exhibit no improvement, although there is entire absence of consti-

tutional disturbance. Reaction may take place within twelve hours after the use of the serum, or it may be delayed for six weeks. Occasionally the improvement is delayed indefinitely until the occurrence of the reaction, following which there may be complete and enduring subsidence of the fever. As a result of the serum the temperature either may subside to normal, or may be reduced several degrees, remaining, however, somewhat elevated. The writer does not favor its continued subcutaneous employment, and has given, as a rule, not over four or five doses at intervals of one or two days, and awaited results. During the past nine months he has practiced the tentative administration of the remedy by the rectum for ten or twelve doses before resorting to its hypodermic use, in order to avoid the discomfort which sometimes follows its injection into the tissues.

The writer has seen unquestionably good results attend its use, even when streptococci were not found in the sputum, and believes that even under such conditions the clinical evidences of a persisting sepsis may sometimes afford, from a humanitarian standpoint, a warrantable basis for its use. S. G. Bonney (*Boston Medical and Surgical Journal*, August 30, 1906).

PULMONARY TUBERCULOSIS, ORIGIN OF.

The authors agree with Behring that pulmonary tuberculosis is usually a late manifestation of an infection contracted during infancy or childhood. They describe the following experiment, undertaken in order to demonstrate the possibility of intestinal infection under conditions which preclude any participation of inhalation in the process. Young guinea-pigs were etherized after five or six hours of starvation, and their

stomachs exposed by a laparotomy. A small amount of tubercle bacillus emulsion was then injected into the organs under the most rigid precautions to avoid any peritoneal contamination with the organisms. Tubercle bacilli are found in the lungs of such animals a few hours after the bacilli have been injected together with milk or cream, and guinea-pigs in whose abdominal cavities a piece of the lung of such an animal is inserted a few hours after the original inoculation, without exception die of tuberculosis. The authors believe that the bacilli traverse the intestinal wall, and, passing through the mesenteric lymph-nodes, which are more permeable than the glands in the other portions of the body, reach the thoracic duct, and, together with the chyle, are poured into the venous blood-stream, from which they readily reach the lungs. They are of the opinion that in most cases tuberculous infection takes place in this way during infancy or childhood. Schlossman and St. Engel (*Deutsche medizinische Wochenschrift*, July 5, 1906; *Medical Record*, August 4, 1906).

PULMONARY TUBERCULOSIS, THE INTESTINAL ORIGIN OF.

It is the general belief that pulmonary tuberculosis in the overwhelming majority of cases is the result of inhalation of tubercle bacilli. This seems such a natural and easy way to account for tuberculosis of the lungs. This explanation is supported by numerous experiments on animals in which forced inspiration of bacilli appeared to be followed by direct localization of bacilli in the lungs. The inhalation theory is also in harmony with the well-known fact that living bacilli occur in the dust and in droplets of sputum about tuberculous patients that use little or no care to prevent con-

tamination of their surroundings; and with the further fact that commonly there is no lesion discoverable elsewhere in the body to which one can trace the pulmonary disease.

Nevertheless, important objections are being urged against the inhalation theory of pulmonary tuberculosis, especially in its extreme form, which tends to minimize the dangers of the alimentary route of infection. Behring's contention that the milk of tuberculous cows is the most important source of tuberculosis is so well known that details need not be discussed. The recent anatomic studies by Harbitz (*Journal Infectious Dis.*, vol. ii, p. 143, 1905) of the distribution of tuberculous lesions, especially in children, afford many points in support of the view that tuberculosis of the lungs and adjacent lymph nodes may result from invasion through the digestive tract. It is not feasible to bring forward in detail all the facts and interpretations bearing on this question. Suffice it to state that until recently there existed no really satisfactory evidence of an experimental nature showing that tubercle bacilli introduced in the digestive tract actually are primarily or rapidly localized in the lungs and thoracic lymph nodes. The experiments of Calmette and Guérin (*Ann. de l'Inst. Pasteur*, vol. xix, 1905, and vol. xx, 609, 1906) of Lille appear to furnish important information in regard to this phase of the question. These investigators find that in cattle and goats the introduction of a single quantity of virulent bacilli by means of the cesophageal tube, particular care being taken to avoid contamination of the respiratory tract, is followed regularly in from 30 to 45 days by the development of subpleural and peribronchiolar tubercles at the tops and anterior borders of the

lungs. Later the alveoli may be invaded from extension of the lesions which primarily are intracapillary. As others have shown before, the bacilli can pass through the walls of the stomach and intestines without leaving any lesions; on reaching the chyle vessels the bacilli are taken up by leucocytes and conveyed to the regional lymph nodes, whence they may escape into the thoracic duct without necessarily causing lesions until they reach the capillaries of the lungs and the thoracic lymph nodes as well as, but more rarely, elsewhere. As localization occurs, Calmette and Guérin believe that the leucocytes which carry the bacilli become immobilized by toxic bacillary products. They also point out that previous experiments which appeared to demonstrate tuberculous invasion by the respiratory tract are open to the objection that the bacilli introduced in reality were absorbed by the digestive tract.

Assuming that the experimental results here outlined in great brevity are applicable to human beings, it necessarily follows that particular care must be taken to avoid all possible sources of contamination of food and drink by tubercle bacilli. Dust, sputum droplets, contaminated flies, soiled hands and articles of various kinds may be the means of introducing bacilli of human origin into food and drink. Efforts should also be directed to exclude the carrying of bacilli into the mouth in more direct ways. The possibility that tuberculosis, pulmonary and otherwise, in reality is of intestinal origin oftener than expected hitherto clearly does not tend to essentially alter in any way the usual preventive measures now in practice. As to milk and other products of tuberculous cows, our attitude, on the whole, will remain unchanged and the practical pro-

cedures will depend, as heretofore, on the view taken as to the disputed question of the infectivity for human beings of bovine tubercle bacilli.

Calmette and Guérin have shown also that animals may survive the single introduction of tubercle bacilli into the stomach, the resulting pulmonary lesions healing completely. Such animals are now immune to tuberculosis. The bearing of this demonstration on the human disease we propose to discuss later. Editorial (Journal of the American Medical Association, October 6, 1906).

RHEUMATISM, ACUTE ARTICULAR: TREATMENT.

Sodium salicylate can and should be given in much larger doses than are generally used. Given in massive doses, it reduces the fever, relieves the pain and swelling, and shortens the course of the disease. It is not injurious to the heart, and appears, by quickly cutting off the disease, to offer some protection to that organ. The patient's tolerance to the drug and the rapid cessation of symptoms form valuable therapeutic tests for the diagnosis of acute articular rheumatism. T. W. Clarke (American Journal of Medical Sciences, September, 1906).

SCIATICA, "INFILTRATION" TREATMENT OF.

Excellent results have been obtained by the writer in 14 cases of chronic, long-rebellious sciatica by treatment with perineural injections by a modified infiltration technic. He injected from 70 to 100 cubic centimeters of a 1-per-thousand solution of eucain with 8-per-thousand sodium chloride. Nine patients were cured completely by a single or once-repeated injection. One, a syphilitic, was only slightly improved. In another patient paresis of the peroneus developed tardily after the one

effectual injection. In some cases slight twinges were felt later in the peroneus region, but they subsided after a small amount of the fluid had been injected at the sensitive point (30 cubic centimeters). It was truly remarkable, he says, to see the patients walking about, entirely free from pain, the day after the injection, when up to that time they had suffered continuous agony unmodified by any treatment. The last four patients were injected with physiologic salt solution alone, without the eucain, and the results were exactly as good as with the anæsthetics. He injected a little larger quantity, up to 170 cubic centimeters. A single injection of this kind was followed by complete relief from pain in forty-eight hours. This latter technic is so simple and free from any danger that the writer advocates it for general adoption, instead of the eucain, for fear of encountering idiosyncrasy to this drug. A case is cited on record of death from 0.08 gram of eucain. Lange, of Leipsic, was the first to practice this "nerve infiltration." Umber (*Therapie der Gegenwart*, Bd. xlvii., Nu. 4; *Journal of the American Medical Association*, August 25, 1906).

SLEEP, OSMOTIC THEORY OF.

The writer points out that all cellular activity, whether muscular, nervous, or glandular, is accompanied by a progressive diminution in the size of the molecules of which the cell is composed, and a corresponding increase in the osmotic power of the protoplasm, resulting in a steadily growing demand for a further supply of water from the surrounding capillaries. Since, therefore, in the waking state there is a constantly increasing tendency towards a break in the isotonic equilibrium of the blood and the tissues, there ultimately arrives a point when

the sudden transudation of a quantity of serum from the capillaries to the surrounding tissues becomes imminent. It is at this moment, according to the author, that the individual passes into a state of sleep; and the transition is marked by a corresponding constriction of the arterioles, and a slowing of the circulation due to the more viscous condition of the blood and its comparatively greater richness in corpuscular elements. Evidence in favor of the theory is found in the fall in blood-pressure which is known to occur during sleep, and which is attributed to the diminution in the quantity of fluid in the vascular system, in the diminished flow of urine, and in the tendency to swelling of the loose tissues in the sleeping condition. Further arguments in its favor are drawn from the increased consumption of oxygen and discharge of carbonic acid, which is likewise attributed to the relatively increased proportion of red corpuscles in the circulating blood, and also in the cerebral anæmia which has frequently been observed during sleep in the subjects of trephining operations. Finally, the author claims as conclusive evidence, the observation of Dastre and Loye, who injected into the veins large quantities of saline solution isotonic with the blood-serum during chloroform anæsthesia, and found that the fluid was not appreciably eliminated by the kidneys or other excretory organs, but that it accumulated in the tissues. The author concludes, therefore, that during chloroform anæsthesia there is a strong osmotic current from the blood to the tissues, which is a "demonstration direct and eloquent of the osmotic theory of sleep." E. Devaux (*Archives Général de Médecine*, April 10, 1906; *Medical Chronicle*, September, 1906).

SPLANCHNOPTOSIS, FUNDAMENTAL CAUSE OF.

The fundamental cause of splanchnoptosis is abdominal incompetence. In their highest development, the abdominal walls not only contain the viscera, but also retain them in position, against gravity and other displacing forces. The abdomen may then be said to be competent. Competence of the abdomen is a developmental factor, a stage of evolution with which the human race is at present struggling; earlier phases can be traced backward through vertebrate series and in human prenatal life.

The distinctive characteristic of the human genus is not the erect trunk, nor even the erection of the trunk on two hinder or lower extremities; but the distinctive human characteristic is the full extension of the lower extremities in the plane of a vertical trunk, the dorsal and ventral surfaces of which tend constantly to approach each other in parallel planes; this extension being accompanied by adduction and forward rotation, so that the patella and toes point forward.

The development of abdominal competence is correlated with the evolution of this extension, adduction and forward rotation of the lower extremities. At birth the abdomen is incompetent, and the lower extremities (thighs) are flexed, abducted and rotated outward. Postnatal evolution of the lower extremities in the direction of extension, adduction and forward rotation tends to be completed in early childhood, but it is an unstable possession, and in a large number of cases never fully attained; in another large number of cases it is attained, but after varying periods of time more or less reversion to the condition found at birth occurs; tendency to this reversion is always

present, but becomes more pronounced with the approach of the fourth decade and beyond. Postnatal evolution of the abdomen in the direction of competence proceeds throughout infancy and childhood, and, in selected cases, is complete at or before puberty. It is a very unstable possession, and in the majority of cases is never fully attained; even when attained, there is a tendency to reversion to the condition of more or less incompetence constantly present, and the tendency becomes more pronounced with the approach of the fourth decade and beyond.

This instability of the abdomen and lower extremities exists at the present day in the most primitive as well as the most civilized peoples, and its existence can be traced among all peoples as far back as pictorial history extends.

Development of abdominal competence is also correlated with postnatal evolution of abdominal viscera. Evolution of the viscera is always incomplete at birth, and there is considerable evidence to show that in many cases it is never completed.

The development of the spine, lower extremities, thoracic cage, and even upper extremities and head, is correlated with the development of the abdominal competence, and *vice versa*. Variations in these correlations result in spontaneous grouping of body forms along two main paths: (1) Basic or primary type of figure, represented by the broad lower thorax, slight anterior convexity of lumbar spine, slight anterior inclination of the pelvis. (2) Secondary or aberrant type of figure, represented by retracted lower thorax, pronounced anterior convexity of lumbo-thoracic spine, increased anterior inclination of the pelvis. Abdominal incompetence and visceral ptosis are observed in both types.

Variations in the correlations enumerated show a spontaneous tendency of the trunk and extremities towards the developmental deformities: round shoulders, lateral and antero-posterior curvatures of the spine; modifications of weak foot, including *pes planus*; retracted lower thorax, marked lumbar or lumbo-thoracic anterior convexity; marked forward rotation of the pelvis; abdominal incompetence, and visceral ptosis—both *en masse* and *individual*.

Experiments and dissections support the clinical hypothesis that abdominal incompetence is the primary factor in the development not only of splanchnoptosis, but also of the common surgical diseases of the upper abdomen; the stomach, the duodenum, gall-bladder and bile-ducts, jejunum-ileum, pancreas, and kidneys (especially the right) being the most important viscera affected. A. C. Victor (Boston Medical and Surgical Journal, August 16, 1906).

SYPHILITIC OPTIC NERVE ATROPHY, TREATMENT OF.

Posterior subconjunctival injections of sublimate may be given with but little pain, if the sublimate injection is preceded by the injection of cocaine. The conjunctiva should be incised and carefully separated from the episcleral tissue, and the injection made far back toward the apex of the orbit. The eye need not be bandaged after the injection, but cold applications should be made for half an hour. This method of treatment of cases of atrophy of the optic nerve has, in the writer's hands, proved of no more value than the usual routine treatment by mercury, potassium iodide, and strychnia, and offers no encouragement for its continued use. C. S. Bull

(Journal of the American Medical Association, September 15, 1906).

THYROIDISM, SERUM TREATMENT OF.

The writer records the results of therapeutic experiments made with a specific serum prepared by separating the nucleoproteids and thyroglobulin from the human thyroid and injecting these bodies into the peritoneal cavities of rabbits, dogs, or sheep. The inoculations are continued at intervals of five or six days for about six weeks, and the animals are then bled from the carotid. The serum thus obtained is presumed to contain an antibody or cytotoxin, which is specific in its action of the thyroid epithelium, and an antitoxin for the thyroglobulin, which is believed to be the toxic product of the gland. The latter, however, has only a theoretic existence, while the former can be demonstrated in a test-tube. The author speaks of two sera used, one a pathologic one obtained by inoculating rabbits with the combined nucleoproteids and thyroglobulin of pathologic glands; the other, called a normal serum, obtained from the inoculation of normal human glands. The pathologic serum at first seemed the most hopeful, but experience proved the differences to be less important. The writer is in the hope that the normal serum can be made still more efficient than it has been. The statistics are given of 71 patients treated, 11 of whom have been completely cured, 42 more or less improved, 15 failed to improve as yet, and 4 died. Three of the patients who died apparently improved at first; one died following a subsequent operation made to hasten recovery; another, after apparently improving, dropped dead, the autopsy revealing a pronounced status lymphaticus. The third died from a hæmorrhage into the respiratory center, which was con-

sidered by the author to be independent of the treatment. The fourth patient was losing ground, and died shortly after the administration of the serum, which differed from that used in the other cases by being derived only from the nucleoproteids, and hence a pure cytotoxin.

In a number of the improved cases he thinks that the patients are really cured, but he does not feel warranted in definitely ranking them as such. The acute toxic cases with fever seem to do best with the least serum and to show the least reaction, while the chronic toxic cases with severe symptoms are less amenable to the treatment. The atypical chronic class have generally proved therapeutic failures, and the psychopathic and neuropathic types have necessarily a poor prognosis unless the toxæmia is checked before organic nerve-changes occur. J. Rogers (*Journal of the American Medical Association*, September 1, 1906).

TONSILS, REMOVAL OF THE.

The best method of surgical treatment of the tonsils is the one that insures the possibility of the removal of all of the glands. The author employs a procedure that combines the best features of two of the oldest and best-known methods—namely, dissection and use of the tonsillotome. After the tonsil and the faucial pillars have been anæsthetized, the gland is dissected free from its mucus and any fibrous attachment. The important feature of this part of the operation is that the gland must be deeply and firmly engaged in the tenaculum forceps in order to secure a very firm hold on the mass when traction is brought to bear. The traction is at first inward, toward the mouth, downward and backward. This is furthered by a backward rotation of the engaged forceps. The at-

tachments are now all at extreme tension, and with a small, sharp bistoury or small, curved scissors incision is commenced well up in the epitonsillar fossa and carried down along the anterior edge of the palato-glossal muscle, hugging the capsule and avoiding the muscular fibers. Any posterior attachments are severed in the same manner, but by reversing the rotation of the engaged forceps to a forward position. Special effort should be directed to the liberation of the large mass of the gland found tucked away in the epitonsillar fossa. The fenestra of a Mackenzie pattern tonsillotome is now made to encircle the gland close to its posterior attachment, and while strong traction with the forceps is continued, the blade of the tonsillotome is driven forward, severing at one stroke the remaining portions. In place of the tonsillotome a special pair of curved scissors, or the cold or electric cautery wire loop, may be used with success. O. J. Stein (*Chicago Medical Recorder*, August 15, 1906).

TUBERCULOSIS, DISSEMINATED, IN RELATION TO THE THORACIC DUCT AND VASCULAR TUBERCLES.

Cases of acute miliary tuberculosis usually show a vascular focus from which most of the bacilli are derived, but in the more common subacute cases with a variable number of disseminated tubercles, the thoracic duct may be the channel of infection.

Small vascular tubercles would seem not to take an active part in the dissemination of bacilli, because during the greater part of their development they are covered by an intact endothelium which, if it ruptures or degenerates, is rapidly coated by a thrombus mass. This either occludes the vessel or is smoothed over, then roofed in by a rapid over-

growth of endothelium. In these the bacilli are usually derived from the intestine, which may or may not show ulcers. The organisms, in their passage through the lymphatic apparatus, give rise to caseation or tubercle formation in the glands, but usually have no effect on the lining of the thoracic duct. G. H. Whipple (Bulletin of the Johns Hopkins Hospital, August, 1906).

TUBERCULOSIS, INTERNAL ANTISEPTIC TREATMENT OF.

After remarking on the tolerance of the human system to powerful drugs and the susceptibility of the tubercle bacillus to the destructive action of antiseptics, the writer proposes an antiseptic treatment of tuberculosis. The drugs he would employ are iodine and phenol, the latter lessening the irritating action of the former and permitting the use of the larger doses. Both, he claims, also promote constructive metabolism under proper conditions. The irritating and caustic properties of phenol can be materially lessened by proper dilution, and still further by the action of camphor; and by gradually increasing the dose, much larger doses may be given to advantage than is generally believed. The writer mentions a dose of 14 grains every two hours, given by Wigglesworth in influenza and by Atkinson in plague, but he prefers to give smaller doses in the beginning and gradually increase as tolerance is acquired. The formula which he has himself successfully used is given as follows: Phenol and tincture of iodine, each 160 minims; spirit of camphor, 3½ drams; glycerin, c.p., ½ ounce; and equal parts of cherry-laurel water, cinnamon water, chloroform water, and tar water to make 15 ounces. It should be mixed and allowed to stand until all free iodine disappears. An emul-

sion should then be made by adding one ounce each of codliver-oil and powdered acacia. Beginning by giving one teaspoonful in half a cup of water every four hours, the dose should be gradually increased to a tablespoonful at one-hour intervals. Variations can be made on this according to the requirements; much depends on the technic in the management of each individual case.

While not speaking positively as to the action of each of the principal ingredients of the above, the writer thinks there is a combination of direct antiseptic action on the bacilli, with a favorable influence exerted, particularly by the iodine and camphor, on phagocytosis and other protective agencies of the living body. The leucocytes are increased in number, and symptoms indicate neutralization of toxins or inhibition of their formation. The tubercle bacilli are more deeply stained by carbolic fuchsin in the sputum of patients under this treatment. H. H. Malone (Journal of the American Medical Association, September 8, 1906).

TUBERCULOSIS OF THE BONES AND JOINTS, TREATMENT OF.

It should be remembered that this disease of the bones and joints is tuberculosis, and while the structures involved may differ histologically from those in which the condition is more frequently seen, the essential characteristics are the same. Bone is naturally of greater density than the soft tissues, and consequently the time required for the development of the disease in such a tissue must be greater, this being also true in regard to the disintegration of the necrosed tissue and the final cicatrization. Except for this fact the disease is the same, having the same general

pathology, and the same variations as to types, the same prognosis, and requiring the same principles of treatment, as apply to tuberculosis in any other part of the body.

The process in bone is almost invariably seen in either the small bones or in the cancellous ends of the long bones, and very rarely is the dense cortical bone affected. The process starting thus in the bone extends in all directions, and may, in this way, involve the joint or the soft structures surrounding the bone. But joint tuberculosis does not always start in the bone, but it may be, primarily, a synovial process, the bone being involved secondarily. One of the great difficulties lies in determining the limits of the process, and also what represents repair, both in the bone and in the soft parts. It occurs most frequently in childhood.

In beginning the treatment the first motive should be to preserve the life of the individual, and to do it with as little mutilation as possible. If to save life it is necessary to sacrifice a leg or an arm, that part should be sacrificed. But only if it is absolutely necessary. Other treatment is the same as in general tuberculosis: abundance of good air, sunshine, good food, and rest. J. E. Goldthwait (Boston Medical and Surgical Journal, July 26, 1906).

TUBERCULOSIS, TUBERCULIN IN THE TREATMENT OF.

An early diagnosis is the most important step to the successful treatment of tuberculosis and it may be arrested by proper treatment, with a fair certainty of a permanent cure. Tuberculin is a valuable adjuvant in the treatment of this disease, as evidenced by the recovery of twenty-eight out of thirty cases that were treated with practically noth-

ing but tuberculin, while they continued to follow their ordinary occupations during the treatment. Cases of tuberculosis treated with the addition of tuberculin show a much less tendency to recur than similar cases treated without tuberculin.

Tuberculin in small doses (0.01 to 0.5 mg.) seems to have a more curative action than when given in large and increasing doses, and no ill effects follow the administration of small doses. Purely incipient cases improve very rapidly under the use of small doses of tuberculin, both as to the arrest of the disease and the clearing up of the diseased area.

Tuberculin should never be given to a patient who has fever or who is suffering from mixed infection. Third-stage cases, especially advanced cases, receive little or no benefit from the use of tuberculin. G. R. Pogue (Medical Record, August 4, 1906).

TUMORS, EXPERIMENTAL INVESTIGATIONS INTO THE GROWTH OF.

In the course of the transplantations of a gland-like tumor of the submaxillary gland, spindle-cell sarcoma began to grow, besides the tumors resembling the original growth. In the original tumor no spindle-cell sarcoma could be found. The spindle-cell sarcoma was found already in the second generation, long-continued transplantation of connective tissue being not essential for the production of a sarcoma.

Transplantation of normal epithelium or connective tissue through several generations does not cause a noticeable increase in the rate of growth of such tissues. The two varieties of tumor growing side by side follow the same variations in growth which are characteristic of the rate of growth in the

different generations, and both obtain equally, in the course of transplantation, an increased virulence. The increase in the rate of growth is due to a direct stimulating effect, either upon the two varieties of cells which are found in the gland-like tumor and in the sarcoma, or upon a microorganism which is possibly the cause of the two tumors.

If it is assumed that a microorganism is the cause of these tumors, the facts found in the present series of experiments can best be explained by the hypothesis that the *same* microorganism originally present in the gland-like structure secondarily invades the connective tissue and causes it to assume a sarcomatous growth. A transformation of sarcomatous cells can, however, not yet be excluded with certainty.

Certain formative stages in the development of sarcoma and gland-like tumors were limited to the first and second generations, and were no longer present in the third generation. This is probably due to the great increase in the rate of growth observed in the third generation.

The rate of growth of the sarcoma gradually exceeded that of the gland-like structures, so that in all probability in the course of further transplantations the sarcoma alone would have been propagated.

As in the former transplantations of a sarcomatous tumor, it was possible in these experiments to decrease and increase the virulence of the tumor experimentally.

The observations recorded suggest a similar origin for the sarcomatous tumors found in mixed tumors of the thyroid in man and in different species of animals; the gland-like tumor being in

both instances the primary tumor, and producing a secondary sarcomatous growth in the surrounding connective tissue. Leo Loeb (University of Pennsylvania Medical Bulletin, July, 1906).

TYPHOID NODULAR COLITIS.

Typhoid intestinal lesions limited to the colon are very rare. The term "nodular colitis" should be restricted to such cases as show a marked infiltration of the submucosa with wandering cells, giving rise to prominent isolated nodules having no relation to the solitary follicles, which are comparatively unaffected. These cases are of rare occurrence. The term "lymphatic hyperplasia" may be used to describe the cases showing a simple hyperplasia of the solitary follicles of the intestines and a relatively normal submucosa. These cases are commonly found at autopsy. G. H. Whipple (Bulletin of the Johns Hopkins Hospital, August, 1906).

URIC ACID DIATHESIS.

The deposits of urates are ascribed by the writer to the peculiarly low standard temperature of individuals exhibiting signs of the uric acid diathesis. Some of his patients have permanently a temperature in the axilla of 35.8° C. The low temperature of the blood prevents the proper dissolving of the uric acid in the blood, and urates are deposited at the points where the temperature is constantly lowest, that is, in the ears, hands, feet, and joints. This assumption suggests an explanation for the rarity of gout in tropical regions. The metabolism is sluggish, and on account of this sluggish metabolism the uric acid is precipitated at various points in the body.

Treatment should aim to stimulate metabolism, and the author has found

the Sauerbrunn mineral waters remarkably effectual in such cases. He has tested the dissolving action of these waters a hundred times by placing a number of small kidney-stones in urine from a uric-acid patient. He weighed the stones before and after leaving them in the urine for a day or two. The patient then ingested a quart or three pints of the Sauerbrunn waters daily, and the test with the kidney-stones was repeated. They were found to lose constantly in weight in the urine voided under the influence of the mineral water. Five small stones in one instance, weighing 45 milligrams, weighed only 28 milligrams after three days in the urine, rendered strongly alkaline by drinking the Sauerbrunn waters. One of the stones crumbled to pieces. In treating the acute attack, warmth only should be allowed. With the Sauerbrunn waters, hydrotherapy, exercise, and superheated air, the writer claims that even the oldest cases of uric-acid diathesis can be improved and in many instances cured. Grimm (*Berliner klinische Wochenschrift*, Bd. xliii, Nu. 22; *Journal American Medical Association*, September 1, 1906).

VERATRUM VIRIDE IN INCREASED ARTERIAL TENSION.

The writer tabulates the details of 19 cases to show the value of veratrum viride in reducing exaggerated arterial tension. He believes that it acts by soothing the heart and dilating the arteries. The indications, as he formulates them, are: chronic nephritis, in which it serves to prevent and to combat uræmia and to postpone asystolia; lead-poisoning, in which it acts on the colics probably due to spasm of the splanchnic arteries; and the early stages of arteriosclerosis, in which it reduces the pressure and retards the progress of the af-

fection. His dosage is .25 cubic centimeters subcutaneously in uræmic attacks, repeating the dose at half-hour intervals. In case of nephritic hypertension with dyspnoea or in lead colic, he gives from 20 to 30 and 50 drops in the 24 hours, keeping the drug up for five to six days. In hypertension from any cause he gives from 15 to 30 drops a day for nearly a week. The author recommends suspending the drug for a few days, and then resuming it. The above dosage refers to the fluid extract; the doses should be doubled for the tincture. Of course the best results follow when the walls of the arteries are still capable of enlarging. In case they have lost their elasticity, then drugs are preferable which act on the blood, rendering it more fluid, or on the kidneys, promoting diuresis, or promoting the metabolism, like iodine. An appropriate diet is all-important, and should be maintained for months. E. Pesci (*Gazzetta degli Ospedali*, Vol. xxvii, No. 60; *Journal American Medical Association*, September 8, 1906).

X-RAYS, THE EFFECT OF, ON LIVING TISSUES.

X-rays, by long-continued exposure or in susceptible subjects, produce degenerations and finally necrosis in integumental tissues. Ordinary exposures have no influence on bacterial or protozoal life. Long exposures inhibit their growth. All protoplasmic activity is in some unexplained way inhibited or destroyed by continued action; highly specialized or growing cells are more easily affected. This action may be due to a breaking up of the lecithin of the cells, thus removing a constituent which is necessary to metabolism. H. E. Robertson (*Albany Medical Annals*, September, 1906).

Books and Monographs Received.

The Editor begs to acknowledge, with thanks, the receipt of the following books and monographs:—

"Historic Notes and Canadian Medical Lore. Lecture Memoranda, British Medical Association, Toronto, 1906." Burroughs Wellcome & Co., London—"Palliatives for Hay Fever." By Solomon Solis-Cohen, Philadelphia, 1906.—"Silver Therapy." By Solomon Solis-Cohen, Philadelphia, 1906.—"The Rest Treatment." By Amos J. Givens, Stamford Hall, Conn.—"A Youthful Gonorrhoeic." By Nelson W. Wilson, Buffalo, N. Y.—"Cystitis." By J. Henry Dowd, Buffalo, N. Y., 1906.—"Some Unheeded Principles Involved in the Dietetic Management of Infants During Hot Weather." By Godfrey R. Pisek, New York, 1906.—"Proposed Regulation of the Practice of Medicine and Surgery in Pennsylvania in the Eighteenth Century." By Charles Perry Fisher, Philadelphia, 1905.

The following from the United States Department of Agriculture, Washington, D. C.:—"The Tuberculin Test of Hogs and Some Methods of Their Infection with Tuberculosis." By E. C. Schroeder and John R. Mohler.—"Standards of Purity for Food Products."—"Game Laws for 1906." By T. S. Palmer and R. W. Williams, Jr.—"Experiment Station Work. XXXVI."—"The Construction of Sand-clay and Burnt-clay Roads." By William L. Spoon.—"Forest Planting on Coal Lands in Western Pennsylvania." By S. N. Spring.—"Sugar Pine and Western Yellow Pine in California." By Albert W. Cooper.—"The Cattle Tick, in its Relation to Southern Agriculture." By August Mayer, Shreveport, La.

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Editorials.

DEPARTMENT IN CHARGE OF
J. MADISON TAYLOR, A.M., M.D.

INOPERABLE CANCER OF THE UTERUS. .

WHETHER a cancer of the uterus is inoperable or not depends largely upon a matter of personal equation of the surgeon. It is very often a matter of conclusion after the speedy death of the patient from recurrence, rather than one of study and deliberation before the operation. My own opinion, based upon a large number of cases, is that there are no criteria that would lead to a safe conclusion. I have

often flattered myself that at last I had caught the case at the happy moment that would insure a cure, only to find a rapid recurrence. Then, again, I have operated against my own judgment, at the solicitation of the physician or the patient's friends, to be rewarded by four or five years of useful life.

This brings to the front an interesting question. Does hysterectomy, when attended by fairly good results as to recurrence, prolong life? In the natural history of uterine cancer, it is not rare to find the disease drift without surgical interference for three, four, or five years of comparatively useful life; a condition that equals the best average of surgical results. Those among my friends who insist upon fifty to seventy-five per cent. of "cures" are counted out. They tell the truth as it appears to them, and no more can be asked of any man. But their standard is not mine, neither do I think that it is a common standard among surgeons. Men of well-known conservatism, like Zykoff, make it difficult to follow the radical pelvic surgeon with any degree of faith. Zykoff's conclusions agree with those of so many practical men that they deserve great weight. He thinks that seventy-five per cent. of patients with cancer of the womb are no longer operable when they reach the physician. One half of these die within the course of a year, but it is our duty to relieve their sufferings during that time.

Many articles have lately been published about the better results that would attend the removal of lymph-glands and channels from the pelvis with uterine extirpation. I heard one young man assert that he removed the entire lymphatic system of the pelvis, which required two or three hours. I allude to it here merely to show the extent to which bare assertion can go, as I never heard anything more about it. The removal of the glands in the unfolding of the broad ligaments that attends the operation by the abdominal route, and the removal of those at the bifurcation of the large pelvic blood-vessels, would be a comparatively easy procedure. The extirpation of all the lymph-channels of the pelvis would be an entirely different matter. The finest practical anatomist this country has ever produced, a mechanic of the highest order, was Professor H. R. Haskins, of Albany. He gave many years to the injection and dissection of the lymphatic system. Many of these beautiful dissections are yet preserved, I believe, in the museum of the Medical Department of Union University. Professor Haskins stated that it was impossible to inject and dissect free the entire lymphatic system of the pelvis. Main lines could be removed with their glands, leaving a multitude of channels either not injected or too complicated for removal. In the light of such testimony as this, it appears absurd to assert that the removal of the entire lymphatic system of the pelvis in the living subject is possible. Professor Halsted has never asserted that he removed in his extensive dissection on the breast the entire lymph-system of that region. He sought for and removed as many of the glands as were possible.

This is all that can be safely asserted of the most radical operation for the removal of the uterus. Further, to expect improved results from such a radical operation in the lower pelvic spaces implies a condition of the disease extremely favorable to such a radical operation, based upon a clinical picture that may deceive the elect. Unfortunately, the extension of the disease does not always follow the course of the lymph-channels. The malignant area may extend by contiguity, or it may also be diffused by the blood-current.

How else may we account for the frequent implication of the kidneys in the cancerous process? Another thing that counts against methods that require two or three hours for completion is the fact that malignant cases withstand prolonged operations but poorly. It is a surprising thing how little shock attends a simple hysterectomy of half an hour or so. But the case would appear in a different light if the procedure required several hours. In an attempt to save human life, the increased direct fatalities ought not to be charged up against it in the repellant conditions of malignant pelvic diseases. The only question is, will radicalism of the nature proposed give us any better results? At present it is hardly more than a proposition which has never been tried out.

As a matter of fact, prolonged surgical operations are badly borne by the subjects of malignant disease. Hysterectomies for large carcinoma of the body of the uterus sometimes offer considerable difficulties in securing the lateral circulation. The similar operation for uterine fibroids frequently causes considerable delay for the same reason. But in a day or so observe the difference between the two cases. The fibroid case appears as if nothing of a serious surgical nature had been done, while with the other you are applying all your resources to bridge a gulf of vital depression. I have observed that the future is seriously affected by the prolonged shock that may attend these operations for pelvic malignancy. This rapid recurrence of the disease after such a condition I attribute to the afferent vessels diffusing the cancer-cells more readily than when under a normal degree of tension. It ought, I believe, to be a guiding principle in these operations to consume a minimum of time and a method that induces the least possible vital depression.

We have been considering but one phase of the inoperable cancer—the condition of doubt, when one man would regard it as advanced beyond the hope of surgery, and another would not hesitate to operate. But the disease offers another clinical picture. It has begun to invade the anterior vaginal wall; the posterior cul-de-sac shows a circling band of induration, while the organ is firmly fixed in the pelvic space. A fungus protrusion, which bleeds at the slightest touch, presents itself at the cervix. The radical surgeon is not slow to pronounce the woman's doom. In such cases as these, the greatest good may be accomplished. It is almost a crime to turn such a case away without making an effort to give relief. Here we may

accomplish greater good than by the radical operation which often shows such delusive hopes for cure.

The cases abandoned by the hysterectomist have afforded a field in which I have worked diligently for twenty-five years. I have relieved suffering, I have prolonged life, and, not least result for good, I have made the death-bed sweet and clean. The article in which I formulated my treatment is more than twenty years old. But without any effort on my part it has been steadily gaining ground. I have made no effort to attach my name to the method, but was simply satisfied to know that the operation which I defined was steadily gaining acceptance among my fellows.

A few words will suffice to explain it. A sharp curette with a stiff shank will remove the zone of cancerous debris. This is the surface that gives a rapid hæmorrhage during its removal; but when removed and the zone of indurated cancer infiltration is reached, the hæmorrhage at once abates. With the curette the zone of infiltration is penetrated as deeply as possible. A few spouting vessels may need to be caught by artery forceps. Next, attack any indurated masses in the vaginal walls near the cervix by removing the mucous membrane and opening up the spaces of cancer infiltration. There is a deep crater left, which was formerly the cavity of the cervix. The edges of this are ragged, and are pared away to the junction of the vaginal wall. A few rapidly-bleeding points are exposed in doing this, which are quickly controlled by pressure. At this point I have met my greatest difficulty in inducing my confreres to follow my very simple technique. I pack the crater and the vaginal surface which has been attacked by the curette with pledgets of cotton saturated with a fifty-per-cent. solution of persulphate of iron, forced in firmly at every point. Why I insist upon this is to mumify the surface and to prepare it to absorb greedily an aqueous solution of the chemical cautery. Many operators who think that they are following the method apply the cautery to the freshly curetted surface. I have tried this, and found that it would not work out in practice. The resulting slough would be about as thick as a piece of paste-board.

The iron packing is so firmly cemented in that it may require two days before it can be removed. When it is removed a solution of equal parts of zinc chloride and water is applied to the surface on small flakes of absorbent cotton wrung as dry as possible from the zinc solution. This is packed firmly into the cervical crater and upon the vaginal surface which has been acted upon by the curette. The vagina and the urethral prominence must be protected from the action of the zinc solution; otherwise sloughs will form there, to the great discomfort of the patient. To protect her as much as possible, a pomade of 25 per cent. vaseline and bicarbonate of soda, which decomposes the zinc chloride, is freely applied to the vulva and the vaginal wall. This completes the operation. A few of the superficial layers of the

zinc cotton may be taken away in a couple of days. In three or four all may be removed. Beyond lies a layer of firm, hard slough. For this to separate may require from seven to ten days; but, no matter how long it takes, traction to remove it must not be attempted. It will be thrown off spontaneously, and when it is found lying loose in the vagina a slough from half to nearly an inch in thickness may be removed. An enormous cavity is left in the uterus and the vaginal vault, but one of the most surprising things about it is the rapidity with which its walls collapse and the speed of the repair.

From a practical point of view, one of the best features of this method is that it may be repeated many times. The patient must remain under observation, and when at any time a small fungoid growth appears in the line of cicatrization the curette will remove it without pain. The iron may be applied, followed by the zinc solution. Sometimes it is so small that a single pledget will suffice, while the slough is cast off without the patient going to bed.

How these advanced cases can be found in this age of clinical investigation is a serious question. My own records show that fifty per cent. of epithelioma of the cervix come to me in this advanced form. Nearly every writer upon the subject lectures the general practitioner upon his neglect to investigate his case upon the first signal of alarm. I have carefully investigated this from the statements of the patients, and have reached another conclusion. Nearly every woman believes that she has more or less profuse and irregular shows of blood at the change of life. Older physicians were to blame for this myth, and women perpetuate the tradition from one to another. They regard it as natural, and hence an examination can do no good. A large proportion of these advanced cases were never examined until they presented themselves at my clinic, for which no physician was responsible.

Another condition which leads many of these unsuspecting women to neglect themselves is the excellent degree of health and exemption from pain which they have enjoyed nearly all their lives. As a rule, they are well-nourished, robust women. Hence I have concluded that the error exists among the women, and not from neglect or lack of diagnostic ability among the doctors. A campaign of education must be set under way among the people. There is something wrong in our methods when we cannot reach the people to instruct them. There is no such thing as hæmorrhage or persistent bleeding in the normal menopause. When it does occur, there is an organic error that demands investigation.

I was astonished when I read in a little book written by a colleague about irregular and more or less profuse shows of blood appearing at the menopause, that such women were not instructed to demand an examination from their physician, but, on the contrary, it was in no sense regarded as a signal for alarm. It is difficult to estimate how much harm such a statement may do among physicians who place

their faith in the author's tabulation. Boards of health instruct the people about acute infectious diseases. Why not go a little further and instruct women about the initial symptoms of uterine cancer?

I have nursed quite a number of these cases along six or seven years by this method, and what appeals to me nearly as strongly as prolonging life is the fact that the disease may never return in an aggressive form to the uterine or vaginal surfaces, but the malignant germs are translated to other organs and death occurs from metastasis. The death-bed is thus relieved from the horrors of putrescence.

ELY VAN DE WARKER.¹

HISTORY OF A CASE OF EPILEPSY OF FIFTY-TWO YEARS' DURATION, WITH 28,000 RECORDED CONVULSIONS. RECOVERY.²

POPE's paraphrase of Aristotle, "The proper study of mankind is man," has become threadbare; its latest variant, "The proper study of mankind is medicine," trite; and yet both are true, as the greater contains the less. The proper study of mankind is medicine, since that includes man, and the visible and invisible universe as well; for all other sciences are directly or indirectly but branches of medicine, and interesting to an extent in proportion to their relation to man.

It is because of this more comprehensive view of the art of healing, that the sketch I am about to read may be included among the other papers; although it suggests rather a human document, than a record of the mere drug-treatment of a case which continued as a rigidly typical variety of epilepsy, with most of the characteristic manifestations exceedingly pronounced, for about fifty-two years, and then subsided simultaneously with the beginning of treatment; the disease reappeared nineteen days after, when treatment was temporarily suspended, the convulsions subsiding again with the resumption of medication, which was continued steadily now for nine months; and when stopped the second time, the attacks did not reappear until the patient's death from another disease, which occurred three years and nine days after the last convulsion.

During this period of exemption from spasm and other indications of active epilepsy, the improvement of the patient was so marked in various ways that I had every reason to believe the disease would never return.

Death occurred in his sixtieth year, from impaired heart—valvular insufficiency—due, evidently, to the strain put upon it by the severity, frequency, and long continuance of the attacks.

¹ Founder and late president, American Gynecological Society; surgeon, Central New York Hospital for Women; consulting surgeon, Syracuse Women and Children's Hospital; etc.

² Read in the Academy of Medicine, New York, before the National Association for the Study of Epilepsy, November 29, 1905.

The patient himself, for twenty-seven years, kept a carefully-tabulated record of seizures—grand mal; he did not take account of mere losses of consciousness without muscular action, and estimated that during his life he had had over 28,000 clonic convulsions.

I append a leaf from his diary, recording the paroxysms of eleven months when he thought he was getting well—surely the most pathetic bit of autobiography ever written—and it exhibits for that period 313 seizures, or, at the same rate, 341 convulsions for the year.

He only tabulated attacks, he said, when he found himself in the street with a crowd around him, or on the floor at home—he often tumbled out of bed or from a chair—or in a station-house, where he was frequently carried, suspected of being intoxicated, while suffering from the sequelæ of a convulsion; or in some "Good Samaritan's" vestibule or parlor, or some other condition giving evidence of muscular disturbance.

On the 3d of December, 1901, I was first invited to see this patient in his home. On arriving at the house, one of the stately colonial homes of Philadelphia, in answer to my knock the door was hesitatingly opened a few inches and a feeble, tremulous voice inquired what I wanted and who I was. On replying, the door was opened wide enough for my entrance, then rapidly shut again, as if afraid of outside intrusion, when I found myself alone in a wide, chilly hall, with a decrepit, sad-eyed woman, his mother and only nurse, like the genius of anxiety, looking as if she had always lived and would never die.

She conducted me to the parlor, a spacious room furnished with the dusty elegance of a past century, but now in decay, and as we sat together on an ancient hair-cloth sofa—everything was in dilapidation—she garrulously told me of her son, who had been a victim of "falling sickness" for over half a century, and who until within the past year, rarely went a day without an attack, some days having three and four, and who had had his first convulsion when three years old, evoked, she thought, by a fright, and which continued until the day before my arrival, when he had had three seizures of unusual violence.

She informed me that for the first fifteen years of his infirmity they had tried everything and consulted everybody, without benefit, including Brown-Séquard, who recommended cauterization of the ears, known then as the "Corsican treatment;" and that finally, because of this and the difficulty of keeping servants "with a son tumbling into fits on all occasions," they had decided to live alone, in order to save themselves the irritation of outside complications, and keep their sorrow to themselves, and that in consequence they had "lived in isolation for over thirty years, not even going to the funerals of friends." The three had decided to do the work of the house and be a world unto themselves, and had succeeded until two years ago, when

her husband died. Three generations of her family, she continued, lived in the house, and they were the last of the race.

I mention these apparently irrelevant domestic conditions because of their bearing on a question I intend propounding later on.

There was no hereditary taint; no history of epilepsy or insanity, or other neurosis in the family. They were a high-strung, resolute, mentally active, energetic people, one brother somewhat erratic, "Not altogether living up to the high standard of the family," as she said; but none had been in asylums or otherwise treated for "nerves."

She hesitated about calling her son as she said he was irritable at times, especially after "a bad day." As we sat talking, the door in the rear of the room opened, and a slight, white-haired man, with a quick step, entered nervously, was introduced by his mother, shook hands with something between hesitating, resentment, and distrust, and sat down.

His mother, after a few explanatory words, retired, and we soon found ourselves chatting as if we had been friends for years. He had not been told, it seemed, that I had been sent for, so that a few conciliatory preliminaries were necessary before arriving at a state of mutual confidence.

I was impressed by his evidently unimpaired mental vigor. Like Alphonse Daudet, he exhibited no indication of his ailment, and was well informed, expressing himself with judgment. His mind was clear, but limited in grasp. Unlike some epileptics of long standing, he was quick and alert, was not even sad; no torpor, no moroseness. On the contrary, after the first few moments he became courteously and confidently communicable. No acneous eruption disfigured his face. No stupor nor lassitude, nothing phlegmatic nor furtive to intimate a mind diseased. His anæmia seemed rather "a high-bred pallor" than the bloodlessness of a chronic malady. No apparent instability of the nervous system; no psychic disturbance; no irregularity of any of the natural functions.

With the exception of a heart-murmur, an inflammatory phimosis, occasional sick headache, and a slight goiter, due likely to circumscribed spasm of the neck—*trachealismus*—from which he had suffered for a few years, he seemed merely somewhat bloodless, but otherwise fairly well, and, notwithstanding the protracted nature of his illness, he was certainly not "a soul in grief." In disposition he was what, in music, would be called *scherzo*—sprightly, animated, jocose, gay. His mother was dejected, hopelessly sad. During my visit I also learned that for a number of years he had been his father's bookkeeper. His tongue was much mutilated—chewed and bitten off during his numerous spasms; his lips slightly disfigured by cicatricial tissue; there were scars also inside his cheeks, one recent and still bleeding, on which account he had invented a "bridle," which he wore at night—a semi-

circular bit of soft cedar covered with chamois-skin, with a perforation at each end through which tapes were passed. At night, harnessed with this device between his teeth and tied securely around his head, he retired, feeling, he said, "that at least the remaining part of his tongue was safe until the morning," "that there would be no shedding of blood in the night." In daytime the family, when with him during his attacks, used a cork with a string tied to it for the same purpose.

He had a voracious appetite, good digestion, and no aura. He was not much exhausted after his fits, and recovered his normal state rapidly. Until the day before my call he thought he was getting well, as the attacks didn't "average more than twenty-eight a month, about three hundred and forty a year." He had not taken any "fit medicine" for many years, and was the first chronic case I ever undertook to manage who did not come to me saturated with bromide salts to the point of mental and muscular feebleness.

After prescribing, as I was about to leave, his countenance changed its expression and color, his eyes half closed, he uttered a low, penetrating cry, just for an instant, quickly shut off as if by the sudden closing of a valve, his muscles relaxed, then became rigid, and he fell to the floor in a fit.

My first prescription included an almost vegetable diet—only a very little meat in the middle of the day. As his attacks were frequently nocturnal, likely because his last meal was his heaviest, his supper was limited to tea or coffee, with just bread and butter. Avoidance of pork, veal, cabbage, cooked tomatoes, pastry, and other foods difficult of digestion or liable to rapid fermentation was insisted upon, and each meal was to be as abstemious as possible, for the digestive organs, particularly in epilepsy, should never be embarrassed by excessive food.

Then a capsule containing $\frac{1}{10}$ grain capsicum, $\frac{1}{30}$ grain strychnine sulphate, and $\frac{1}{2}$ grain hydrocyanate of iron, was to be taken before each meal and at bed-time.

If you have never used it you will be pleased with the effect of capsicum in epilepsy associated with nausea or sick headache; and hydrocyanate of iron is the only chalybeate to be used without hurt, for the often concomitant anæmia of this disorder. Tincture of the muriate of iron will increase rather than diminish the paroxysms, and should never be used in epilepsy.

Then bromide of potassium a dram and a half a day divided into four doses and given with the utmost regularity at eight, twelve, four, and eight o'clock, and always highly diluted in water. The first week the doses should be given in four ounces of water each, unless the attacks are nocturnal, when, after a month, the two last doses should be united and taken at nine o'clock in a pint of water, for living epithelia do their work of osmosis, excretion, and secretion through thin membranous walls better when water is present in abundance, and water distilled and aerated and in

large quantities is, on this account, the best vehicle for the administration of the bromide salts.

This is the method, somewhat modified, of administering the bromides briefly alluded to by Professor Niemeyer, and by which may be obtained such good results. In high dilution you do not need to use such large doses and are not so likely to produce bromism. The bromide in concentrated solution, as you may have observed, sometimes increases convulsions in epilepsy, and should be avoided in this form. If there is acneous inflammation—seborrhoea or acne fluenta, that disfiguring rosaceous, unctuous condition of the skin with which epileptics are so frequently afflicted—and no convulsions during a month's medication, you may reduce the above quantity of bromide, but do not diminish the quantity of water. Yet, as a rule, you do not need to lessen the amount of the salt until the patient has gone without motor discharges for a year.

Of course, during this period the various organic functions must be kept in as normal a condition as possible, not so much with medicine, however, as by diet and not perfunctory but pleasant exercise or, better, pleasant employment, for you are attempting the elimination of a treacherously elusive enemy, and your attacks must necessarily be discreet and guarded.

Capsicum, strychnine, arsenic, belladonna, digitalis, and hydrocyanate of iron are to be administered in addition to the bromide, in combination and quantity according to indications.

An interesting article by Dr. C. E. de M. Sajous in *The Monthly Cyclopædia of Practical Medicine*, vol. vii, page 321, 1904, suggests that digitalis may have its beneficial effect on epilepsy, because of its stimulation of the adrenal system, which thus purges the epileptic "of the toxic element" or, as he also calls it, "the spasmogenic poison."

After two weeks of the above treatment without convulsions, then suspension of all treatment for four days, with a convulsion each day, and subsequently one week's irregular treatment with two convulsions, the patient consented to an operation under ether for suppurative phimosis. The prepuce was removed, together with three preputial calculi and nearly an ounce of thickish gelatinous secretion. This added much to his comfort and made a profound impression upon him. During my service, which lasted for about three years and ten months, he had had in all six convulsions. The first four occurred as indicated above, when he had stopped medicine, the other two while taking it irregularly.

After a week's suspension he resumed bromide treatment according to the manner indicated above, with the addition, when called for, of capsicum, digitalis, and hydrocyanate of iron, and continued it for nine months. For three months longer he took bromide alone, four times daily, each dose in twelve ounces of distilled

aerated water; and from then until his death, three years and nine days after, was free from convulsions, during which time he took no medicine for epilepsy. During this period of exemption he was able to take up to some extent the management of his property. He called on me about once a week, on each visit presenting me with a loaf of bread, his only eccentricity as far as I knew.

I occasionally prescribed for his heart-murmur with dyspnoea, and once for oedema of the feet and ankles. He had no other trouble demanding the use of medicine.

I had not seen him for a few weeks, when early one morning, being sent for in a hurry, I entered his room, expecting a return of the convulsions, but they had not returned. I found him rather placidly on his back in bed; jaw dropped, eyes wide open, his "bridle" in his mouth—dead! His death evidently without a struggle, as the bedclothes were not disturbed. His mother, spent and alone, sat desolate before a fireless kitchen hearth, too feeble and indifferent then to exhibit interest or care, and not another living soul but herself in the great, empty house.

Discussion of Dr. Woods' Paper by Dr. M. Allen Starr, of New York.—

"I have been very much interested in Dr. Woods' delightful paper. The fact he has presented to us is one we meet with constantly in our practice; that is, that a chronic epileptic will oftentimes practically ruin the lives of one, two, or even three members of his family. About two years ago a physician wrote me in regard to opening a home for epileptics of means, and asked my opinion about it. I heartily commended the plan, and since then I have done my best to induce well-to-do persons to send their epileptic sons and daughters to such an institution, but in vain. Although they appreciate the fact that these patients need special care, they object to sending them to an institution. The best I can do is to induce them to find a home in the country, preferably that of a physician who is willing to take the patient into his family. I heartily believe in the colony treatment of epilepsy for the poorer classes, and I would like to see it extended to meet the needs of the well-to-do; but I do not at this time consider it feasible. I agree with Dr. Woods that it is not uncommon to see an epileptic practically make his family sacrifice their happiness and usefulness to the community, to his individual care."

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REDUCTION-CURES FOR OVERWEIGHT.

EXCESSIVE weight, beyond reasonable proportions, is evidence of disease. A grave disorder accompanied by overweight is far more difficult to correct; it is always more important that it shall be carefully and promptly remedied. Over-

weight may be due to exuberant nutrition, but more often to derangements of metabolism. It is never to be welcomed, although many persons, including physicians, regard plumpness as more or less desirable; at the least a matter of indifference or æsthetics. Experience shows that fat persons, even those presenting the outward marks of robust health, are not especially enduring. To be sure, bigness is often accompanied by large capacity for work, but only when there is conspicuous muscular power, genuine symmetrical vigor of constitution. The work of the world is accomplished by those of moderate proportions.

It is always wise to take into consideration the question of restoring the over-stout individual to normal proportions. This should be done only under competent medical advice and supervision. Reduction-cures for women past middle life are fraught with serious dangers. Overweight depends chiefly upon defective oxygenation. Even among those who seem most free from organic derangements there must be some lurking disorder in metabolism pointing toward organic incompetence, especially in the governing mechanisms or the elaborating organs, but above all in the great regulative ductless glands.

Health, being a state of nice poise between the intake and output, rests essentially upon the attitude of oxidization and oxygenation. Fluctuations within reasonable limits are free from gravity, but disproportion should beget suspicion and demand exploration. It is by no means always feasible to estimate exactly where the trouble is brewing; but if certain points are held in mind, watchfulness will be rewarded by knowledge. Corrections, applied promptly, may save health, usefulness, or even life. In all those overweight the respiration-index is low; oxygen is not furnished in requisite amount, nor distributed adequately. The heart is presumably either not strong enough, its action not well sustained, or it is taxed heavily. The blood-vessels are at fault either in tone or in structure. Chronic intoxication is present or threatened. The eliminating organs are overburdened, notably those most vulnerable, the kidneys. Diabetes commonly arises, due to more than one structural error. When one function has departed from its normal standard, either by excessive or diminished activity, there is an inevitable perturbation of one or more of the others. Function makes or mars structure. The law of compensation is useful only when not overtaxed.

It will be seen that overweight is a form of disease threatened, growing, or established. The subject will be treated in this brief sketch under two heads: 1, Polysarkia, and 2, Obesity.

The term polysarkia is used to distinguish that form of increased fleshiness which is accompanied by apparently full health, from obesity, which word carries with it the suspicion of morbidity. The condition is one which causes mainly discomfort in limiting activities, less or more, or annoyance by offending the æsthetic

sense. In men it is not of great importance; in women the constitutional peculiarity can scarcely be regarded as much more, yet is a source of anxiety from the deformity. As a matter of fact, experience tends to show that whereas some persons so affected do grow stouter in spite of conscientious effort, others, again, for no known reason, ultimately become slender. Fat children and adolescents oftentimes become symmetrical, even especially handsome, adults.

The persons for whom the following recommendations are designed are usually young or on the hither side of middle life, ruddy, vigorous, with large capacities for enjoyment of things material and wholesome. They may have acquired vitiated tastes which contribute to the fleshiness, such as desiring too much sleep, or too little physical activities, or abnormal appetites for sweets, beer, or wine. The quality of flesh in these cases has more to do with weight from muscular increase or fat-infiltration than from accumulation of fat-masses. The lymph-spaces are large, the elasticity of the muscles is defective. Upon manual examination the tissues of the limbs and back show marked density. The muscles feel harder, when in repose or fully relaxed, than those of muscular laboring men or trained athletes. The former, on pressure, will be found to grow denser as the examining finger presses deeper into the mass; whereas pressure into the muscles of one whose condition is "fit" exhibits uniformity throughout, it is soft and perfectly elastic, like pure Para rubber. These dense muscles of polysarkia are equipped with large lymph-spaces; the sweat-glands are over-active; the whole person is more "juicy." Where the balance of power is well maintained the individual is capable of vast power, with reserves of strength most desirable. The only reduction needed for such ones is to prevent undue increase. This can usually be accomplished by the well-known simple measures, such as systematic exercises, limiting food, sleep, fluid-drinking, etc. It not seldom happens, however, that after making what seems to the individual, and even to the physician if he be consulted, reasonable efforts, not only is there no result, but an actual increase in flesh. Renewed effort, increased it may be, is often followed by a steady growth in bulk. This occurs especially in those verging on toward middle life. Then it becomes a ground for definite apprehension, and demands systematic measures, consistently pursued till headway is made and held against accumulation of the burden.

Obesity is a term which indicates a pathologic process. L. Krehl (Pathologic Physiology, Tubingen, 1904) says that no sharp distinction can be drawn between normal and morbid accumulations of fat. Fat tends to collect in certain parts of the body, notably the subcutaneous tissues and mesentery, about the heart, kidneys, and liver, especially in older animals. In the young it may also collect in the muscles and between the muscle-fibers. The weight of this fat becomes a burden, inducing inaction; muscle atrophy follows from disuse, and a vicious circle is thus estab-

lished. Most stout people sweat freely; the thick covering of fat diminishes heat-radiation and conduction; the ability to work thus lessens; becoming readily overheated, they suffer discomforts and get out of breath easily; the diaphragm movements are limited, double exertion is demanded to attain the same result, the muscles become weakened; often there are anæmia, cardiac disturbances, myocardial degeneration, and then energy fails. There is recognized clinically an association between obesity and anæmia, gout, arteriosclerosis, atrophic nephritis, though the exact causal relation between these is not yet clearly known. There is often obesity as a complication with cardiac disease, emphysema, chronic pulmonary disease, tuberculosis, arthritic troubles, chronic cord-diseases, hemiplegia, and many forms of neuralgia.

In initiating reduction-cures the mind of the patient, and too often that of the physician, turns first to drugs which enjoy the reputation of diminishing bulk. Laxatives, especially laxative waters, such as of Marienbad, Kissingen, Ems, Aix, Carlsbad, Bath, etc., do accomplish something.

Medicines which "regulate the liver" have a certain usefulness, judiciously applied. Alkalies also are of utility in suitable instances, especially in cases of acidosis. Thyroid extract is of powerful efficacy. In the early stages of myxœdema, where the fat-accumulations are conspicuous, thyroid extract is a specific. In diabetes it is highly dangerous; thyroid extract administered to apparently healthy fat persons has been known to produce glycosuria. Myxœdema and glycosuria may coëxist, especially in the later stages of the former..

Arnold Lorand (Monthly Cyclopædia, October, 1906) says: "I am inclined to distinguish two categories of obesity: 1, the exogenous; 2, the endogenous. The first is that arising from rich living, especially carbohydrate food, combined with little exercise. The second is seen in those who eat little, yet continue to grow fatter, and is due to degeneration of the blood-glands which regulate the process of oxidation. Persons of the first category are red in the face and plethoric. Those of the second are usually pale and feel cold, with no tendency to perspire; their fat is firm, or like bacon obesity; these patients are especially benefited by thyroid treatment. Thyroid treatment in persons of the first category might lead to glycosuria or even to diabetes, though in such this would not be of great intensity. Diabetes, on the other hand, is rare in persons of the second class. The endogenous form of obesity may be reckoned as a disease due to morbid condition of certain of the blood-glands."

M. Rheinbaldt (Berliner Klin. Woch. XLIII., No. 23) asserts that along with the use of thyroid extract there must be supplied 3000 calories above the ordinary, otherwise the patient's own albumin is exhausted and the general health suffers. He gives this in the form of meat. Thyroid tablets should always be chewed. The elimination of water is much promoted by this drug, but especially oxidation.

Few problems are more difficult to solve satisfactorily than that of specialized diet. Good results coming quickly may prove later to be due to bad measures. It is true those who have given close attention to the physio-chemistry of foods are entitled always to an attentive hearing. Much data is current on these lines. It is discouraging to note the apparent disruption of the findings of one authority by another equally high. Chittenden has taught us, by the light of interesting and exact researches, laboratory and clinical, that we may reduce our protein far below the long-accepted tables of Voit. Fletcher, a layman, has demonstrated astonishing and invaluable facts. Now F. G. Benedict (*American Journal of Physiology*, August, 1906) has shown that the conclusions of Chittenden are at fault, in so far as the time of the experiments is too short; that body-weight maintained during a comparatively short metabolism experiment is a deceptive guide as to the food-requirements of the individual.

All this goes to show that there are needed caution, a full knowledge of the ascertainable conditions, and plenty of time to subject a patient to special dietetic regulations.

In a recent article on the dietetics of obesity (A. C. Croftan, *Journal of the American Medical Association*, September 15, 1906), Croftan covers the ground pretty completely and wisely. His conclusions are to the effect that fat may be formed from almost any food, according to its caloric index. It is chiefly a question of calories, *i.e.*, the amount consumed and absorbed. When an excess is introduced, the organism stores it away in the form of glycogen and fat. We must learn the normal caloric requirements for the individual, the normal being approximately 30 to 35 multiplied by the weight which should exist with a certain height. The object is to furnish wholesome, palatable, bulky foods of low caloric value, inducing early satiety; *e.g.*, green vegetables, fruits, sparingly of pod vegetables, of bread (using preferably hard biscuits), moderate amounts of lean meat plainly stewed, roast or broiled (not fried), etc. There is, however, distinct danger in too great a restriction in foods in amount and character. It is most important to avoid impairing the digestion or deranging the heart; weakness may follow which forbids the employment of necessary exercises.

For practical purposes the safest and most efficacious rules the author has found are those given by Horace Fletcher (*The A. B. Z. of Nutrition*). In brief, these are to masticate the food thoroughly; at first excessively, until the habit is formed. Simply chew till the food cannot longer be held in the mouth and is involuntarily swallowed. Drink no fluids while the food is in the mouth, whereby it would be "washed down," before fullest mastication. By this plan it has been well attested, and my experience fully confirms the postulate, a sanity of taste is soon achieved; the individual unconsciously selects those articles which are best adopted

to his needs; also the amounts taken are much less, practically proportionate to the actual systemic demands. If at first, while the habit of the slow mastication is being formed, relatively hard articles are selected, encouraging long chewing, better results come promptly. Again, if one dish alone is permitted at a meal, no matter how much of it is taken, the sameness brings early satiety. Later, a greater variety may be allowed and the person will then rarely exceed. This simple measure, this habit once established, is so satisfactory that it is rarely necessary to adopt the elaborate scientific methods outlined by some authorities. It is a great comfort and encouragement, too, for the patient to learn that no special restrictions are to be enforced. He will instinctively adopt all needed limitations as his taste reverts to earlier and simpler standards.

In instituting systematic exercises for persons it is often desirable, as Von Noorden recommends, to begin by a course of digitalis. This may be continued for a time, omitted, and resumed. My preference is for digitalin (Merck) in doses large enough to steady the heart-action under severe exertion, such as hill-climbing, one-sixth to one-third grain two or three or four times daily (see article by Henry Beates, *Monthly Cyclopædia*, January, 1905). Also where there is exhaustion present, especially if there is acidosis, the phosphorous tonics are indicated, preferably the acid glycono-phosphates, possibly with strychnia (as in Eskay's neurophosphates). By this means we are able to tone up the relaxed structure, supply a food-element to the tissues, and enable the individual to comfortably pursue systematic increments of activity. Always it is essential to bear in mind that the best results follow slow, cautious, watchful, but persistent measures. All reduction-cures should proceed by months or even years, rather than run the risks of haste by days or weeks.

The most natural, most efficacious, form of exercise for such conditions is walking, gradually increased, estimated by time rather than by distance, first on levels, later hill-climbing. By this means, as shown brilliantly by Oertel, the heart and vessels acquire permanent vigor. The muscles, especially of the legs, are the great oxidizing organs. An exceedingly important aid at first is a supporting belt, to take the weight from the overtaxed diaphragm, give freer action to the thorax, the lungs and heart, and to transfer the load burdening the abdomen to the whole torso, back-muscles, etc. The best form of belt is that devised by Morris Longstreth (article by author, "Treatment of Ptoses," *New York Medical Journal*, August 4, 1906).

In conditions of bodily derangements, such as are induced by lack of normal activities, one factor is common to all. The muscles, also the ligaments and other supporting structures, exhibit loss of tone. They may become flaccid or more often contracted. This loss of tone, especially the commonly existing contractures,

stand in definite clinical relationships to the metabolic fault, especially to the accumulations of redundant tissue, fat or flabby muscle. It has been my experience that when this tone is restored there ensues a metabolic balance; the thin person accumulates weight and the fat one loses. Mere exercise, especially free movements alone, such as are involved in outdoor sports, or the ordinary "calisthenics" cannot be trusted to bring about the desired results. The essential factor is systematic stretching, passive and active. This is a principle of paramount importance to be insisted on whenever practicable. Time and again it has been my privilege to succeed in reduction-cures where excellent men have failed, chiefly because of using this elastization. The method of securing this stretching need not be elaborated here, but general hints may prove useful. When the individual is feeble, of lax tissues, heart and kidneys suspicious, exceptional precautions must be taken at first to avoid strain. Individual needs and capacities require exact estimation. Much of the work may be done lying down or sitting, graduating to standing by active, increasing tensions and resistances.

I wish to emphasize this principle of graduated stretching of the muscles and deeper structures as of paramount importance in reducing bulk. Experience has taught me that by this measure alone, employed intelligently, observing the individual defects, correcting them consistently, more will be accomplished in due time, and more permanently, than by any other. The reason for this may not seem clear, but the fact remains and can be readily verified. It is needless to give details now as to how this is to be accomplished, as a description would occupy too much space. Suffice it to say that by systematic stretchings, partly passive, by a skilled operator under constant supervision, partly active, finally resisting, the sluggish lymphatics are encouraged to do better work. The deeper ligaments, the tendons, the boggy muscle-masses, are steadily freed of vitiated contents. Flexibility returns or increases, the flow of lymph is encouraged, they acquire habitual activity; symmetry is achieved, fat-masses melt away, flaccid abdominal walls become firm and by normal use continue to exert needed compression on mesenteric fat, which passes steadily into the general circulation. This circulation is enhanced, oxygenation proceeds satisfactorily, weight steadily lessens.

On a later occasion the author intends to present certain details of treatment, especially as to the form, character, and degrees of special exercises adapted to individual needs.

J. MADISON TAYLOR, A.M., M.D.

Cyclopædia of Current Literature.

ALCOHOLIC MULTIPLE NEURITIS.

Multiple neuritis is, as a rule, easily diagnosed. It is never difficult to differentiate it from cerebral palsy, but it is sometimes almost impossible to determine whether or not there is also disease of the spinal cord. In children, the question may arise whether acute anterior poliomyelitis or neuritis is present. In the former there is never muscle-pain, nerve-tenderness, nor areas of skin-anæsthesia. The determination of the cause of the disease is far more difficult than the recognition of its seat. There are two distinct types of this affection, the one chronic, the other distinctly acute. Many of the acute cases are engrafted upon the chronic disease. More laboring men suffer than any other class. The prognosis in multiple neuritis without serious mental symptoms is good, as a rule. In some cases recovery is complete. C. W. Burr (*American Journal of Medical Sciences*, July, 1906).

AMYL NITRITE, ACTION OF.

The writer explains the therapeutic uses of amyl nitrite by its power to dilate the peripheral blood-vessels. The compensations of the vascular system are such that a lowered blood-pressure corresponds to increased rapidity of the heart's action, and a slowing of the cardiac action means an increase of the blood-pressure by constriction of the blood-vessels. When the pulse rate is not affected, it may be assumed that a dilatation of the vessels of one region is compensated by a corresponding constriction of the arterioles in another region, and vice versa. This being the

case, it is reasonable to suppose that when a vasodilator affords relief in a certain condition, it does so by relaxing vasoconstriction either in the part itself or in other parts, by which a local congestion is relieved by the fall of the general blood-pressure. The beneficial effects of amyl nitrite in menorrhagia and in dysmenorrhœa are explained by the disappearance of uterine congestion in consequence of dilatation of peripheral vessels and fall of the blood-pressure. The author has found that amyl nitrite administered during menstruation may stop the process. A similar action explains its utility in hæmoptysis and other internal hæmorrhages in which constricted peripheral vessels and high blood-pressure favor the continuance of the bleeding. Rigors are accompanied by peripheral vasoconstriction, and are frequently relieved by inhalations of amyl nitrite. The same is true of angina pectoris, in which, whatever may be the condition of the cardiac vessels, those of the periphery are generally constricted. The relief of syncope is explained in the same way by the writer. Hay fever and asthma, he states, are occasioned by local congestions accompanied by general peripheral constriction, and the relief of the peripheral spasm brings about a lessening of the local congestion. Some neuralgia, headaches, and epilepsy are affected in a similar manner. This explanation of the action of the drug, the writer thinks, will indicate other uses, as in angioneurotic œdema, impending asphyxia, and laryngeal spasm. F. Hare (*Clinical Journal*, August 29, 1906).

ANGINA PECTORIS.

The author observes that the great fact in this disease is the existence of pain, around which the attendant phenomena are grouped. It usually radiates to one or both shoulders and arms. There are usually repeated paroxysms, induced by exertion or by digestive conditions. Other sensations are faintness, weakness, and breathlessness. Objectively, there are pallor or cyanosis, immobility or contortions, dry or moist skin. The vascular tension varies within wide limits, and there may be an increased flow of urine and saliva. The disease probably depends upon impairment of the function contractility. In the treatment of the disease it is necessary to determine whether there are underlying conditions inducing or influencing the symptoms. The drugs which are usually serviceable are those which lessen vascular resistance, especially the nitrites and the iodides. Amyl and butyl nitrite, ethyl iodide, alcohol, ammonia, and morphine are recommended, also heat to the chest and artificial respiration. Careful regulation of the diet must always be considered from a prophylactic standpoint. G. A. Gibson (Practitioner, September, 1906).

ANTITHYROIDIN, THERAPEUTIC VALUE OF.

It is generally believed that the functions of the thyroid and parathyroid secretions are concerned with the neutralizing of certain metabolic poisons produced by the organism and circulating in the blood. Lesions in either one of these organs have likewise been held responsible for the unique and characteristic symptoms associated with exophthalmic goiter and kindred affections, and to the parathyroids has recently been given an increasing impor-

tance in the production of these. The results of operative removal seem to show that the latter is associated with a train of symptoms resembling in all respects those of Graves's disease; and it is also followed by a decrease in the size of the thyroid gland. For the relief of the symptoms which accompany exophthalmic goiter and similar diseases, the use of antithyroid extracts or sera has been proposed, on the theory, put forward by Gauthier and Moebius, that the condition was due to hyperthyroidization. If it is ultimately proven that these remedies are curative, then it will be quite evident that excessive or at least changed secretions of the thyroid or parathyroid bodies are pathogenic factors in the etiology of the disease previously referred to.

A test of this theory has been made the subject of a practical clinical experiment by Eisner and Wiseman (New York State Journal of Medicine, June, 1906), who used it in a series of twelve cases of typical exophthalmic goiter, the serum being obtained from the blood of thyroidectomized sheep. Several typical cases were also under treatment, in the majority of which the goiter, if present, became more or less reduced; but, taking all the cases together, the writers plainly state that at this time they are not justified in reporting a complete and absolute cure in any. They claim, however, that antithyroidin is a remedy which can be used successfully for the relief of the annoying and alarming symptoms in both typical and atypical cases, particularly as regards the tachycardia, precordial distress, and tremor. Improvement should follow in from three to seven days; and if it has not begun within three to four weeks, the chances seem to be against ultimate benefit from the prolonged use of the serum. The cases

which, according to Eisner and Wiseman, have yielded most readily to treatment, are those characterized by moderate goiter development, with slight exophthalmos and tremor. Although the enlarged thyroid did not return to its normal size in these cases, it became perceptibly smaller. Exophthalmos seems to be the most rebellious symptom, never yielding entirely to antithyroid treatment. It was found that the nervous symptoms improved as the heart became slower, and the feeling of fear which possesses many of these patients also disappeared. Another favorable feature which has attended the use of the serum has been the increase in weight which the patients have experienced; and the authors sum up their experiences by stating that in no case did they regret the trial of this remedy—it always proved itself harmless.

This report is certainly an encouraging addition to the others which have been published in the same tenor, and, although it is too early to base conclusions on the relatively small number of cases which have been published, there is, nevertheless, reason to hope that ultimately the administration of antithyroidin will prove to be a rational therapeutic method. At present its value in relieving symptoms must be admitted, and also the fact that it is not followed by any injurious results. Editorial (Medical Record, September 8, 1906).

BLEPHARITIS.

The frequent bathing of the eyelids with an alkaline lotion—simple bicarbonate of soda; plenty of soap and water and friction with a flannel will do just as well—is advised by the writer. A good cleansing given by the surgeon himself, and a final light swabbing with a weak solution of silver nitrate, will do

more than gallons of lotion liberally bestowed during many weeks. Then the application of a smooth, antiseptic ointment will keep the lids soft and reduce the liability to the collection of more crusts and scabs. Plain boric ointment in yellow vaseline, or a doubly diluted ointment of ammoniated mercury, or the yellow oxide of mercury in a mixture of lanolin and vaseline to the strength of 1 per cent., are all of value, the last perhaps most of all. These measures will do much to reduce the unsightly ravages made by the disease, but they will not touch the thing which is most frequently the real cause of the irritation. To get at this the refraction of the eye must be made out, by retinoscopy, and any irregularity found must be corrected with glasses. N. B. Harman (The Clinical Journal, September 5, 1906).

BORIC ACID AND APPENDICITIS.

The writer considers and upholds the view that the frequency of appendicitis has been added to in late years by the large use of boric acid and other chemicals as food preservatives. Boric acid upsets the digestion, the prominent symptom being great and distressing flatulency. The appendix takes no part in the digestive or intestinal function. Any attempt to use it as a receptacle is the first step in the process ending in inflammation, *i.e.*, appendicitis. Anything entering it, gaseous or otherwise, must be incapable of "moving on," and unless regurgitation takes place the contents undergo active bacterial decomposition. The initial lesion, which probably renders appendicitis possible, is the opening or blowing out of the appendical canal to such a degree as to render it accessible to the contents of the intestine as carried along by peristaltic action. In this way flatulent dyspepsia,

however produced, may lead to an appendicitis. R. Harrison (*Lancet*, September 22, 1906).

BRONCHIAL ASTHMA, TREATMENT OF.

The first step in the treatment is to train the patient to make the respiratory movements more regularly. Every unnecessary movement during expiration is avoided, allowing the elastic pressure of the lung alone to accomplish the task of expiration. An anæsthetic is beneficial only because it abolishes the forced muscular contractions. When these false expiration-movements are brought under control, the next step is to prolong and to deepen the inspiration, and thus gradually restore the normal type of respiration. Success depends on the degree of intelligence and the energy of the patient, as well as the intensity of the catarrhal affection. It is important to train the patient's will-power to exert itself, especially in the incipency of an attack. Most patients, after a little practice, are able voluntarily to open all their air-passages, if even for a short time. Some are able to suppress all the symptoms of asthma from the start by concentrating their attention and will-power on them. Saenger advocates gymnastic exercises of the expiration to abolish the forced movements of expiration. The patients must be taught, he says, to breathe so that the expiration lasts longer than the inspiration. To accomplish this he has the patient count aloud, with a slow, moderately loud voice. Patients who at first were able to count only about seven during expiration, become able in two or three days to count from sixteen to twenty without stopping. Speaking and slow reading are particularly useful in learning to control the spasmodic contraction. The iodine preparations will be found useful, he states,

to soften the tenacious secretion in the bronchi. Atropine is valuable, and local lesions in the nose or elsewhere must receive treatment. The bronchial catarrh is liable to be long refractory to treatment. The vasomotor disturbances in the bronchial mucosa are among the principal factors in the asthma, and require "toughening measures." The nervous system may also require treatment. Strübing (*Deutsche medizinische Wochenschrift*, Bd. XXXII., Nu. 34; *Journal of the American Medical Association*, October 13, 1906).

BRONCHIAL ASTHMA, TREATMENT OF.

The injection of atropine (1 milligramme) is warmly recommended by the writer, to cut short the asthmatic paroxysm. By this means the emphysema, and therefore the dyspnœa, is promptly relieved. The reason for this, according to the author, is as follows: The emphysema is due to irritation of the vagus, and atropine, as is well known, paralyzes the terminal filaments of the vagus. In support of his theory, he adduces the fact that emphysema may be experimentally produced by electrical stimulation of the vagus; if, however, the animal has previously received atropine, no emphysema takes place. He also reports a case of "vagus neurosis," resembling an attack of asthma, except that there was complete absence of râles. There was extreme expiratory dyspnœa, emphysema, with tenderness of the right vagus, and slowing of the heart's action. An injection of atropine brought immediate relief. G. Zuelzer (*Die Therapie der Gegenwart*, September, 1906; *Boston Medical and Surgical Journal*, October 4, 1906).

CANCER OF THE LIPS AND TONGUE.

Cancers of the lips, tongue, ear, etc., all belong to the squamous-celled type

that extends almost exclusively by continuity of tissue or along the lymph-spaces or vessels, and very rarely gives rise to metastases in distant organs. Hence the better chance of a permanent cure by early radical operation. For the less advanced cases, as well as in the severer ones, the writer removes the lymphatic nodes and surrounding tissues in the submaxillary triangle and along the internal jugular vein as a routine procedure. At least a half an inch of healthy tissue, or even more, on each side of the growth should be cut away, and in cancer of the tongue, if it extends beyond the median line, it is better to remove the entire organ, as the lymphatics on both sides of the neck are probably involved.

The writer insists on the importance of thorough removal of the deep cervical nodes along the internal jugular, and on the necessity of avoiding infection of the field of operation, either from the primary growth or from the cancerous lymphnodes. The primary focus should be cauterized, if possible, and great care be taken to avoid opening the nodes. The author operates in cancer of the lips, face, and ear at one sitting, and he has done the same in cancer of the tongue in fairly robust patients without too much glandular involvement. If the latter is extensive, it is better to follow Butlin's plan of operation in two stages. D. N. Eisendrath (*Journal of the American Medical Association*, September 29, 1906).

CANCER OF THE RECTUM: TREATMENT.

Heredity, sedentary occupation, habitual constipation, hæmorrhoids, and traumatism do not have the etiological influence that has generally been ascribed to them. Cancer of the rectum develops more rapidly prior to the for-

tieth year than at later periods of life, and usually takes the colloid form at that period. Its prognosis is bad. Its insidious beginning is one of the chief obstacles to the improvement in the ultimate result of operative measures, an early diagnosis being of rare occurrence. This shows the importance of rectal examinations in all rectal disorders.

The average duration of the disease in nonoperated cases is twelve months from the beginning of the symptoms. In operated cases the average duration is fifty-six months. Immobility of the tumor is the sole contraindication to a radical operation. Preliminary colostomy should be avoided if possible. Only in cases of severe ileus should it be practised. The coccygeal operation of Kocher should not be confused with the perineal and sacral methods. Kocher's method is recommended as the most effective and desirable. The diseased segment having been removed, the end of the intestine should be secured to the anus, the mucous membrane of the latter having been dissected away. The peritoneum should be carefully sutured, and not tamponed or drained. The aim of the subsequent treatment should be the avoidance of infection. Should infection appear, irrigation and drainage must be rigorously carried out. The operative mortality with the author has been 14.58 per cent. Ether should be used as the anæsthetic. Recurrence took place in 39.7 per cent. of his cases, usually in the circumrectal tissue: M. Du Pan (*Revue de Chirurgie*, August, 1906; *New York Medical Journal*, September 22, 1906).

CANCER, PATHOGENESIS AND THERAPEUTICS OF.

The writer believes that it may be assumed that cancer is not due to a para-

site, and that an explanation of the incidence of cancer must be searched for. If, therefore, a person is a gross feeder, and more so if he indulges to excess in animal food, and if there is superadded a constipated habit, which has such a pernicious effect upon the thyroid gland, it may be concluded that there are present the three most important factors whose combined influence is sufficient to provoke a tendency to the development of cancer. The first principle, then, in the treatment of cancer is to insist upon a complete daily evacuation of the bowels. Second, the diet must be restricted to the actual requirements of the body and the capabilities of the digestive organs; butcher meat must be barred and a vegetarian diet be relied upon to a large extent. Thirdly, the defective action of the thyroid gland must be supplemented by the administration of the gland of healthy animals, or the active principle of the gland, at least three times daily. Fourthly, as saccharomyces are invariably present in the blood in cancer subjects, and as these act injuriously in inducing fermentive changes upon the absorbed enterotoxins, they should be destroyed by giving ten to fifteen grains of sodium salicylate thrice daily, along with a thyroid preparation. If the uterus is the seat of disease, the parts should be kept scrupulously clean by douching, after which a tampon, saturated in a 10-per-cent. solution of ichthyol in glycerine, should be introduced, and renewed every twenty-four hours for a week or two, and afterwards at longer intervals. In scirrhus of the mamma, considerable assistance may be derived by the inunction of an ointment of cocaine and morphine hydrochloride, each 10 grains, in half an ounce each of wool-fat and petrolatum. A piece about the size of a pea should be

rubbed well in over the tumor and surrounding skin night and morning. Robert Bell (Medical Record, October 13, 1906).

CEREBROSPINAL MENINGITIS, RASH IN.

In commenting on some features of recent cases in Glasgow, the writer states that in two instances a decided purpuric rash, purple in color and hæmorrhagic in character as to the spots, with well-marked edges, was seen on the dorsum of the feet, but in no other area. In another case punctate hæmorrhages appeared all over the trunk and limbs in scattered patches of six or seven spots. In still another case, the rash appeared in crops at intervals of about seven days. On examination on the twenty-first day of the illness, purple and maroon spots, circular, with regular edges all the same size—*i.e.*, that of a lentil—were seen on the dorsum of the feet, on the arms, the legs, the trunk (back and front), four below the chin, and one behind the ear. They were scattered over the body, with areas of three to four inches of normal skin between each. These spots were definitely hæmorrhagic in character, and so well defined as to be seen from a considerable distance, the picture presenting quite the aspect of "spotted fever." Two days later these had almost disappeared, but others took their place. W. Wright (Lancet, September 15, 1906).

CHEYNE-STOKES RESPIRATION, BLOOD-PRESSURE CHANGES IN.

In ten cases of Cheyne-Stokes respiration occurring in man, the periodic alternation of dyspnœa and apnœa was accompanied by long Traube-Herring waves of blood-pressure. These cases may be separated into two groups as regards the relation between the respira-

tory periods and the blood-pressure wave. In group 1, each dyspnoeic period was associated with a rise of blood-pressure; in group 2, the opposite relations existed. In the former, the pulse-rate was slowed during the apnoea; in the latter, during the dyspnoea.

Periodic respiration may be produced in animals by an increase of intracranial tension, and blood-pressure changes are observed which bear the same relations to the respiratory periods as occur in clinical cases of periodic respiration associated with increased intracranial tension. In the former case, the waves of blood-pressure rise and fall above and below the line of intracranial tension, and the underlying cause of the periodic respiration is a periodic alternation of anæmia and blood-supply to the brain and medullary centers.

From the clinical standpoint, in the opinion of the author, the following conception is important. Cheyne-Stokes respiration occurring clinically in cases of increased intracranial tension, in all probability represents similar conditions to that observed in the animal experiments, namely, blood-pressure waves rising and falling above and below the line of intracranial tension. According to this conception, the appearance of this condition in a patient indicates one of two things, either a still further increase in the intracranial tension, or a beginning loss of the blood-pressure reaction to the increased intracranial tension. In either case the prognosis is bad. A disappearance of Cheyne-Stokes respiration in a case of increased intracranial tension means, on the other hand, either a decrease in the tension or a rise of blood-pressure, and hence is of good prognosis. Cheyne-Stokes respiration that is accompanied by a rise of blood-pressure and increase of pulse-rate during the dyspnoeic

periods is probably always associated with increased intracranial tension. H. A. E. Eyster (Bulletin of the Johns Hopkins Hospital, September, 1906).

CHOLERA, SODIUM BICARBONATE IN.

The writer has attended 1354 cases of cholera during seven years of practice in Indo-China. He had the disease himself once, and, tortured by thirst, he drank copiously of Vichy water, notwithstanding his incessant vomiting. From that moment his condition notably improved. This fact, and Auerbach's assertions in regard to the pronounced bactericidal action of sodium bicarbonate in his laboratory tests at Kharkoff, encouraged the author to try an alkaline treatment. The eight patients thus treated all recovered, although the prognosis had been absolutely bad. At the first serous stool during an epidemic he gives 50 grammes of rum, believing that alcohol favors the defensive reactions of the organism. He then gives a dessert-spoonful every hour of a mixture of 20 drops of laudanum in 250 grammes of water. Larger doses depress. When the symptoms show signs of aggravation he makes a subcutaneous injection of 2 grammes of sodium bicarbonate in 20 grammes of distilled water. Two hours afterward the patient is given a 3-per-1000 solution of sodium bicarbonate to drink freely, up to three quarts a day, regardless of the persistence of the vomiting. If the condition has not improved in fifteen hours, he gives another subcutaneous injection of the sodium bicarbonate. The patients are kept warm by a native method of two or three charcoal braziers under the bed, with a blanket reaching to the floor all around, but held up away from the patient by three hoops fastener to the sides of the bed. Warm air, heated to about 45°C., is thus

constantly circulating around the body. The eight patients thus treated all recovered without a mishap, while the epidemic had been constantly fatal up to that time. A. Thébaud (*Presse Médicale*, Vol. XIV., No. 67; *Journal of the American Medical Association*, October 6; 1906).

CHOREA.

From a study and analysis of 108 cases of chorea treated at the Johns Hopkins Hospital and Dispensary, the writer concludes that there is good reason to think that well-marked febrile symptoms, without rheumatism, occurring in chorea, especially if they are accompanied with undue rapidity or irregularity of the pulse, is at least strongly suggestive evidence of acute endocarditis. It is possible that the fever may be the sign of a deeper-lying infection back of the chorea, but there is nothing in his study to settle the question whether chorea represents a secondary infection, or a special localization of an infectious agent responsible for essential manifestations of the disease. The study of the circulatory conditions in old patients still remains to be carried out, but the writer calls attention to the following points of interest thus far developed in his investigations: Of 689 cases of chorea observed at the Johns Hopkins Hospital and Dispensary, one or more attacks, 25.4 per cent. showed evidences of cardiac involvement; such evidence was present in over 50 per cent. of the patients studied in the wards of the hospital. Cardiac involvement occurred with somewhat greater frequency in those cases in which there was a history of acute polyarthrititis than where such history was absent, and was commoner in cases of chorea with frequent recurrences than in those in which there was

a history of a single attack. In 110 cases of chorea treated in the wards of the hospital, there was fever of a moderate extent in almost every instance. In the large majority of cases in which high fever was present, there was evidence of cardiac involvement. There is good reason to believe that the presence of fever in otherwise uncomplicated chorea is, in a large proportion of cases, associated with a complicating endocarditis. W. S. Thayer (*Journal of the American Medical Association*, October 27, 1906).

CONVALESCENCE, TREATMENT OF.

There is one point in the treatment of disease which many are inclined to neglect, and that is the management of the patient during the stage of convalescence. Serious reflection over past cases will show that this finishing period of disease does not end until the patient is able to perform his every-day duties; while it is a well-known fact that, as so-called sequelæ, many serious organic changes follow in the wake of the acute infections. Any prolonged serious sickness will tend to weaken the various organs, more particularly the heart, kidneys, and nervous mechanism, and it is not a matter of great surprise that during the period of convalescence, even with the exercise of the greatest care, secondary changes may arise that will greatly limit the duration of the sufferer's existence, or may superinduce a condition of chronic invalidism.

Convalescence, while often rapid, may not infrequently be delayed, depending upon the inherent recuperative ability of the individual, and to no small degree upon the management of the case. Some diseases, more frequently than others, are followed by slow convalescence, as influenza, typhoid, acute rheumatism;

while among children, the victims of bronchopneumonia and rheumatic heart conditions often drag along for many weeks before showing any pronounced gain. Where a large amount of blood has been lost, as after severe post-partum hæmorrhage and after operations, convalescence is apt to be slow and uncertain.

Retardation of convalescence is a matter of the utmost importance. It prevents the patient's returning to his usual occupation, while with the impairment of bodily strength, mental vigor is also often curtailed and the seed may be sown for subsequent nervous disease. Among women, chronic invalidism, neurasthenia, and narcomania are particularly to be dreaded, while among children physical and mental retardation of growth may be expected. Lastly, with diminution of resisting power on the part of the economy, the entrance of other pathogenic micro-organisms is much more likely to occur, as witness the frequent development of tuberculosis during convalescence from almost any of the acute infections. These reasons are sufficient to show why it is a serious mistake to handle patients carelessly and indifferently during this period, or to allow them to carry out their own treatment in their own way.

Treatment naturally divides itself into three headings, dietetic, hygienic, and medicinal, and it is difficult to say which occupies the most important rôle. As regards diet, it is always necessary to remember that while convalescents require more food than usual, it is often a matter of the greatest difficulty to induce them to take enough to replace the daily waste. Foods must be given that are both pleasing to the palate and at the same time of good nutritive value. The expediency of using alcohol must be

left to the individual taste, but ordinarily Burgundy or port may be prescribed with advantage.

As regards the hygienic treatment, abundance of sunlight and fresh air are of the utmost importance, and the physician must himself see to it that his orders in this direction are being obeyed. Often a change of climate or scene will work wonders, especially after the most depressing of diseases, influenza.

Medicinal treatment is often very unsatisfactory, and while tonics are indicated as a rule, all cases and patients are not alike, and the attendant may meet with pronounced failure with a remedy that in previous cases had been most beneficial. Nothing is more reprehensible than the routine administration of a favorable tonic, regardless of the indications. Usually some form of iron is required to combat the anæmia, and the selection of the form in which this valuable element is to be administered is often a matter of the greatest difficulty. For, while most forms of anæmia are benefited if iron can only be taken up by the system, not infrequently the condition of the patient is rendered worse by the well-known astringent and irritative effects of the drug in almost any form in which it may be given. In some cases the ordinary inorganic salts succeed admirably, while, again, the newer organic preparations seem best borne by the patient. Editorial (*Lancet-Clinic*, September 8, 1906).

DIABETES MELLITUS, TREATMENT OF.

Diabetes mellitus is defined by the writer as a disease of faulty metabolism, characterized by a deficient power of oxidation, resulting in the incomplete combustion of the carbohydrates and fats of the food and of the tissues. The author protests against the belief that

urine with its specific gravity of 1020 cannot contain sugar. He refers to 50 instances in which the specific gravity was from 1006 to 1018, in each of which sugar had been demonstrated.

All treatment instituted must be directed toward improving the powers of oxidation. It is the writer's custom to give the patient written instructions for his dietary for each meal for a week, each day cutting off a little more carbohydrate food, until on the seventh day the diet is composed of a definite quantity of fats and proteids only. The diet for this day is as follows and is termed the "standard diet:" Breakfast: 150 c.cm. of coffee with two teaspoonfulls of thick, sweet cream, two poached eggs, four slices of bacon, and butter. Dinner (midday): 150 c.cm. of clear bouillon; broiled fish with mayonnaise dressing; roast beef, 200 grammes; spinach or asparagus, salad of lettuce and tomatoes with French dressing; cream cheese, 20 grammes; butter; one small cup of black coffee. Supper: Beefsteak, 200 grammes; eggs, scrambled, without flour; cup of tea; string beans; lettuce salad with French or mayonnaise dressing. For the next two days the patient continues on the standard diet, to which is added an "accessory diet" of 100 grammes of wheat bread equally divided between the morning and midday meals. The twenty-four hours' urine is collected and examined. If glucose is present, the patient is allowed the standard diet plus a diminished accessory diet, *e.g.*, 80 grammes of wheat bread. If the glucose is absent, he is given the standard diet plus an increased accessory diet, *e.g.*, 120 grammes of wheat bread. A study of the individual case is all-important. T. S. Hart (New York Medical Journal, September 15, 1906).

DIARRHOEAL DISEASES OF INFANTS, UNRECOGNIZED ETIOLOGIC FACTOR IN.

Attention is called by the writer to the cathartic property in the grasses which form the food of so many cows from spring to autumn. This property disappears when the grass is dried in the form of hay. The mortality curve follows the life of this type of vegetation, reaching its maximum in July, then gradually declining. Infants get the full physiologic effects and often the toxic effects of the aperient properties in the milk from the grass-fed cows. From October to May there is almost none of this diarrhoeal tendency apparent. Sterilization does not destroy this poison, which is a chemical one. The cow whose milk is used for infants should be kept off of pasture, and should be stall-fed, as in the winter. The chemistry of the grasses, the author states, offers a comparatively new field for study. J. L. Walsh (Medical Record, September 15, 1906).

DILATATION OF THE STOMACH, ACUTE.

Attention is called by the writer to the necessity of making an early diagnosis of this condition, which, unless recognized in time, may lead to very serious results. The four cases which he reports, serve as a basis for a brief discussion of the subject and its treatment. The symptoms are marked by the appearance of sudden and severe vomiting, accompanied by more or less pain in various parts of the distended abdomen. The pulse is small and rapid, but there is no rise of temperature. The absence of the latter is important, because by this sign the condition may be differentiated from a peritonitis. Another sign of value is the presence of evidences of a localized collection of fluid on the

left side of the abdomen. The writer finds that among sixty reported cases, a correct diagnosis was made in only thirteen instances, and this usually by men who had previously treated the condition without having recognized the true state of affairs until an autopsy was made. The author thinks that the diagnosis can best be confirmed by the introduction of the stomach-tube.

The prognosis, unless correct treatment is instituted at once, is bad. The mortality in the 64 cases which have been published, is 47.

The first point in treatment is to favor the evacuation of the stomach, which is best accomplished by placing the patient in an elevated pelvic position. During the first few days, gastric lavage should be regularly done, and no food is to be given by mouth until the stomach has recovered its tone. The necessary fluids may be provided by the administration of normal salt solution subcutaneously or by rectum. Nutrient enemata are also indicated, and the heart must be properly stimulated. This form of gastric dilatation is also apt to be complicated by disturbances in the duodenum, marked by distention of this organ brought about by the tension of the mesentery. This may also involve other portions of the gut, and will be relieved by the treatment directed towards the gastric condition. If this is ineffective, then a laparotomy is indicated. Neck (*Münchener medizinische Wochenschrift*, August 7, 1906; *Medical Record*, September 1, 1906).

DYSENTERY, CHRONIC, TREATMENT OF.

The three cases of chronic dysentery described by the writer came under treatment in Dresden, and suggest the importance of examining for amœbæ even when there is no history of a resi-

dence in the tropics. They also suggest the advisability of tentative treatment with ipecac and iodoform enemas even when amœbæ are not found at first in the stools, after exclusion of intestinal tuberculosis, gastric or pancreatic achylia, fermentative dyspepsia, or other cause for chronic diarrhœa. He was much gratified with the results of treatment with ipecac given with a few drops of opium and peppermint, supplemented by high rectal injections of about 250 c.cm. of solution of 5 grammes of iodoform in 1000 grammes of mucilage of gum arabic, given in the knee-elbow position under high pressure, with an attempt afterward to massage it up into the colon. The iodoform is left in the intestines for about ten minutes, and the larger part is then washed out with two enemas of water. If the amœbæ are ensconced in the appendix, it may be necessary to remove that structure before the affection can be cured. H. Meyer (*Deutsche medizinische Wochenschrift*, Bd. XXXII., Nu. 33; *Journal of the American Medical Association*, September 29, 1906).

ECLAMPSIA, TREATMENT OF.

Eclampsia is ascribed by the writer to retention in the liver of toxins generated in the placenta. The liver, for some reason, is unable to neutralize them. During the lowering of the vitality by the birth process, these unneutralized toxins pass into the circulation and, in case of a predisposition, affect the brain, kidneys, or both, and induce the syndrome of eclampsia. If the toxin injures principally the kidneys, then the symptoms will be scanty urine, with albumin and casts. From 2000 to 4000 c.cm. of physiologic salt solution should be injected with venesection in case of plethora, and three times a day a powder should be

given containing diuretin (theobromin sodium salicylate) 1 gramme, and pulv. digitalis leaves and trit. camphor, each 0.1 gramme. If the toxin affects the heart, the pulse will be rapid and fluttering, and caffeine and camphorated oil should be injected subcutaneously. If the toxin affects the brain, there will be coma, superficial respiration from paralysis of the respiration center, œdema of the lungs, and convulsions. Treatment of this group of symptoms should include artificial respiration kept up for days with half-hour intervals, and during the pauses slapping with cold water and cold packs. Narcotics should be given as little as possible; the best, he states, is an enema of 3 grammes chloral at a dose, with morphine only in case of the greatest agitation, 0.03 gramme at a dose. In his experience the artificial respiration and slapping with cold water have saved many patients who were apparently moribund. W. Liepmann (*Centralblatt für Gynäkologie*, Bd XXX., Nu. 24; *Journal of the American Medical Association*, October 6, 1906).

EXOPHTHALMIC GOITER, PATHOLOGICAL ANATOMY OF.

Histologically, primary exophthalmic goiter is characterized by an excessive epithelial proliferation with a formation of large irregular follicles, which are filled with papillary ingrowths. The epithelial cells become cylindrical, and histologically the processes of secretion do not differ from those described by Anderson in the normal gland, stimulated to increased secretion by injections of pilocarpine. The same histological changes have been described in the gland when undergoing compensatory hypertrophy (Halsted, Hürthle). The colloid, when present, is finely granular and

stains faintly, although in some sections a dense, heavily staining colloid may be found. The colloid is formed both as a secretion and as a product of degeneration.

The goiter in the secondary cases does not differ histologically from the simple colloid or parenchymatous goiter, upon which the symptoms were grafted. The evidences of increased secretion described by Farner in these cases are inconstant. The clinical course of the secondary cases is less severe, and the prognosis is better in these cases, both as regards immediate recovery from operation and later recovery from disease.

The writer states that while it is impossible to judge of the secretion of the gland from histological studies, it may be that the primary cases are associated with dysthyroidism, and the secondary with hyperthyroidism. D. D. Lewis (*Surgery, Gynecology and Obstetrics*, October, 1906).

GASTRIC AND DUODENAL ULCER, PERFORATED.

From observations on perforated gastric and duodenal ulcers based on a personal experience of forty-six operations, the writer concludes that the liability to perforation is as great in the male as in the female; it usually occurs earlier in females, however. The prognosis is best in early life. There is usually a history of severe indigestion, but rarely of hæmatemesis. Premonitory symptoms of perforation are occasionally present. No constant factor will account for the rupture of the ulcer. Almost all gastric perforations are on the anterior wall and toward the lesser curvature. The duodenal perforations are almost invariably in its first part and on the anterior wall. There is usually but one perforation, its size varying from a pin's head to that

of a three-penny piece. Suddenness of onset, overpowering pain, abdominal rigidity, and severe shock are symptoms of perforation. Vomiting is not a common symptom. Percussion gives unreliable information. The seat of maximum pain is a guide for the incision.

Apparent improvement is often very deceptive. Opium is a dangerous remedy, as it masks the symptoms. There is no constant relationship between the ensuing peritonitis and the size or site of the perforation, or any other single factor. The abdomen should be opened as early as possible by a vertical incision. It is seldom necessary to open the stomach to find the perforation. An omental graft should be secured over the line of sutures. Excision of the ulcer is not to be recommended unless it is imperative. If the closure of the ulcer has resulted in serious narrowing of the pylorus, gastroenterostomy should be performed, or, as an alternative, pyloroplasty. The abdomen should be washed out and the head of the bed raised to favor drainage. Saline injections should be given. After twenty-four hours, fluids may be given by mouth. Complicating after-conditions are temporary gastric fistula, pneumonia, bronchitis, etc. The sooner the operation is performed after perforation, the better the chance of recovery. Miles (*Edinburgh Medical Journal*, September, 1906).

GASTRITIS, CHRONIC, CURABILITY OF.

Cases of chronic gastritis cured by appropriate diet and individualized drugs are reported by the author. He has found that bitters and stomachics are of little use, but has obtained excellent results from a combination of papain with peroxide of magnesium, with or without benzonaphthol and sodium bicarbonate. He relates details showing

the benefits of appropriate treatment and the injury that may result from prolonged use of astringents or salines. Pepsin, he found useful only when sufficient hydrochloric acid is present at the same time; it thus does no good in cases of achylia. Papain answers the indications here, 1 gramme of papain being able to peptonize 200 grammes of albumin. His experience has shown, he claims, that most forms of chronic gastritis, if they are not complicated by extreme atony or gastrectasia, can be cured in a comparatively short time. P. Rodari (*Berliner klinische Wochenschrift*, Bd. XLIII, Nu. 28; *Journal of the American Medical Association*, October 6, 1906).

HÆMORRHAGE IN THE NEW-BORN.

Hæmorrhage in the new-born is either traumatic or spontaneous. When it occurs during the first twenty-four hours after delivery it is usually traumatic, and this class includes cephalic hæmatomata, hæmatomata of the sternocleidomastoid muscle, hæmorrhage beneath the skin, intracranial, intraabdominal, and intrathoracic. In spontaneous hæmorrhage the blood may be from any mucous surface or beneath the skin, and almost all cases begin within the first ten days of life. They consist of hæmorrhage from the umbilical cord, intestinal, from the mouth, stomach, conjunctiva, ears, nose, ecchymosis, lungs, vagina. The prognosis is very grave. The hæmorrhage does not appear to bear any relation to hæmophilia, and is a comparatively rare disease. The etiology is obscure, and hereditary syphilis is considered an important predisposing cause. But the real important cause seems to be probably some change in the blood or blood-vessels, a specific condition. The important principles of treatment consist

in control of the hæmorrhage, as far as this is possible, in aiding the nutrition of the child in every way, and in maintaining the body heat. H. McClanahan (*Journal of the American Medical Association*, October 13, 1906).

HYSTERIA FROM THE POINT OF VIEW OF DISSOCIATED PERSONALITY.

The individual physiological and mental alterations observed, including the amnesias, taken by themselves are in no way uncommon as phenomena, and, therefore, are not peculiar to this condition, but are frequently observed as elements in other symptom-complexes, particularly hysteria. Amnesia is not in any way an essential characteristic of secondary personalities, but some of the most marked alterations of personalities have developed with complete recollections of their previous lives; retention of memory is more likely to be met with when the alterations have gradually developed.

The symptom-complex observed in certain types of hysteria differs in no way from that manifested by many so-called secondary personalities without amnesia. The pure hysterical symptom-complex—the classical hysteria—may form such an organized system that it may be made to alternate in mass with either the healthy psycho-physiological organism or with another abnormal symptom-complex. When this occurs the hysteric may exhibit some form of amnesia. The alterations may be brought about by artificial devices or by accidental factors (emotions, etc.).

Certain symptom-complexes which commonly pass under the name of hysteria, with or without amnesia, are, from another point of view, to be regarded as disintegrated or secondary personality, and, if taken in connection

with the normal condition, may be regarded as a phase of multiple personality. That is to say, the previous or later acquired normal state may be regarded as one personality, and the disintegrated hysteria as another. As the hysteria ordinarily develops insidiously, and equally gradually returns to health, retaining a continuous memory through the whole cycle, the splitting of the personality and the multiple characteristics are disguised. One condition slides into the other so gradually that in the absence of any loss of memory there is nothing to mark the division of personality. But when, as is sometimes the case, a sudden restoration to health is effected, bringing with it an amnesia on the part of the hysteria or of the restored normal person, the duality of personality becomes plainly recognizable.

Hysteria, then, is a manifestation of disintegration, and the neurasthenic state, one of the stigmata of hysteria, is pathologically a type of dissociation of personality. Conversely, disintegrated personality is no bizarre phenomenon, but in its mild forms an almost everyday clinical affair, though ordinarily, in consequence of the absence of amnesia, it passes unrecognized. Morton Prince (*Boston Medical and Surgical Journal*, October 11, 1906).

INFANTILISM, FORMS AND CAUSES OF.

By infantilism is meant a condition resulting from the sum of various diseases acquired in childhood and in puberty. The writer objects to extending this definition further, as others have done, to limit infantilism to a debility, a frailty, and an abnormal smallness of the whole body, and therefore a disturbance of development which affects the whole mass of the body more than it does the individual organs. The author

considers that we are justified in speaking of a local partial infantilism. General infantilism is a developmental disturbance, in which the whole organism retains its childish type, and the propagation of the race is prevented. The chief characteristics of this form are smallness of the bone skeleton, proportional smallness of the organs, badly developed or undeveloped genital organs, and the persistence of the childish mental capabilities. True dwarfs are included in this category. But the degree and complications of this form vary greatly, and so alter the type.

Intrauterine and extrauterine disease of the thyroid gland plays an important part in the genesis of general infantilism. Some authors maintain that all cases of infantilism are due to disturbances of the thyroid, and that inherited syphilis, malaria, alcoholism, tuberculosis, etc., only take a part in the etiology of the condition when the thyroid gland is primarily diseased. But others have found that both in severe and mild forms the thyroid gland may be intact, and the writer agrees with this view.

The elimination of other glandular functions may inhibit and interrupt the bodily and psychical development, as has been shown by veterinary surgeons in the removal of the sexual glands in young animals. A connection between disturbance of the adrenals and the development of the brain has also been proved. Persistence of the thymus is also relatively common in infantilism.

After briefly discussing the action of the internal secretions of the glands and the general action of this secretion on the organism, he sums up that the developmental disturbances of infantilism may be produced by disturbances of the metabolism of very varying origin. Besides this, one has to add local and or-

ganic causes of the condition. First, the author speaks of trauma as a local cause in the arrest of development. Severe shock in young people has a very marked effect in this direction. Next he mentions that the determining cause may be a primary disturbance of functions of the brain. The connection between the glands and the brain is a mutual one, and one can make the assertion that the influence of the brain on the glands may be as great as the influence on the muscular system. G. Anton (Münchener medizinische Wochenschrift, July 24, 1906; British Medical Journal, September 29, 1906).

INTESTINAL OBSTRUCTION DUE TO GALL-STONES.

Gall-stones may obstruct the bowel in five different ways, obturation being the most usual form. The stone may get into the bowel through the common duct, but usually enters from the gall-bladder by obturation, via the duodenum, and may lodge anywhere from the pylorus to the anus, but in the majority of cases is found in the ileum. As a rule, the gut is not damaged; but gangrene and perforation occur if the obstruction is not promptly relieved. The symptoms are those of acute, but often not complete, obstruction of the bowel. A previous history of gall-stone disease is found in most cases. The presence of a migrating tumor originating in the gall-bladder, or a stationary tumor of egg size and shape, and hard, is of great diagnostic value, but it is absent in most cases. Tenderness and rigidity are not present until late. Shock is not marked. Multiple attacks of bowel obstruction are significant of gall-stone ileus. Exploratory incision is the best means of making the diagnosis in the majority of cases. The mortality is 50 per cent.

This large mortality the author considers to be due in no small measure to the advice given by many authors to delay operation until a fair trial of medical treatment, massage, etc., have failed. M. F. Porter (*Medical Record*, October 13, 1906).

LEUKÆMIA AND HODGKIN'S DISEASE, X-RAYS IN.

Two cases treated with the x-rays are reported by the writer: one of Hodgkin's disease, in which the relief of symptoms was obtained, though they probably may recur unless the treatment is continued; and one of splenomyelogenous leukæmia, in which the continued application of the rays for over a year has brought the blood down to the normal and largely reduced the splenic enlargement. Arsenic used as an adjunct to the treatment seemed to be of benefit.

The first effect of x-ray treatment was to increase the number of leucocytes in the general circulation. This was accompanied by a large increase of degenerate cells, most of them disintegrating myelocytes. No toxic symptoms have developed in the patient, and though the blood-count has remained normal for two months, the continued use of the x-ray at intervals is advised, to prevent possible recurrence. The application was made in the leukæmic case over the spleen and long bones, with a hard tube, at a distance of ten inches from the anode, the applications lasting from seven to fifteen minutes. In the case of Hodgkin's disease, the x-ray treatment was made over the enlarged glands. A. H. Roth (*Journal of the American Medical Association*, October 20, 1906).

LYSOL POISONING.

According to the author, 100 cases of lysol poisoning come under treatment

in Berlin every year. Even when the stomach is not rinsed out for two or three hours afterward, it is yet impossible to evacuate a large proportion of the lysol. His post-mortem findings and chemical studies have demonstrated that lysol is not a poison for the blood, but acts mostly on the cell, especially on the liver-cells. The stomach should be rinsed until there is no longer trace of lysol. It has been found sometimes that even after all trace of the lysol has disappeared, further rinsing a couple of hours later will show more lysol, probably due to elimination into stomach, with consecutive reabsorption in the intestines unless removed by rinsing the stomach. No antidote is known to date, he states; but if the patient survives the first twenty-four hours, he is liable to recover and to be free from serious after-effects. The author believes that an antitoxin is formed to protect against the lysol, and that glycuronic acid—which is excreted in large amounts—represents the antitoxin, or at least has some share in the neutralizing process. The lysol has an affinity for fat, and consequently penetrates into the cell through the lipid substance. The cell then reacts to this invasion by producing sulphates and glycuronic acid out of its own supply of albumin and carbohydrates. They are produced in excess and act on the intruding poison like a true antitoxin, although, unlike the true Ehrlich antitoxins, they do not pass into the blood to any extent. F. Blumenthal (*Deutsche medizinische Wochenschrift*, Bd. XXXII., Nu. 32; *Journal of the American Medical Association*, September 29, 1906).

MUMPS, THE BLOOD-CHANGES IN.

As a result of the examination of the blood in twenty consecutive cases of

mumps, the writer concludes that lymphocytosis is a constant symptom in mumps; it is relative and absolute, and is noted on the first day, no matter how small the tumor may be, and continues until the swelling has disappeared. It is more marked with bilateral than with unilateral mumps, and is most marked in children who have reached puberty. It is present in the diseases in adults, but is not extensive. Eosinophiles are slightly decreased in the beginning of the disease, but rise to normal or beyond it during convalescence. The eosinophilia is higher in bilateral than in unilateral involvement.

The polynuclear neutrophiles vary relatively inversely with the lymphocytes. With orchitis complications the polynuclear neutrophiles tend to increase relatively, though there may be no absolute leucocytosis. Hyperleucocytosis may recur in mumps, but not to an excessive degree. There is no secondary anaemia. Lymphocytosis is a diagnostic feature of mumps, differentiating this disease from adenitis. I. S. Wile (*Archives of Pediatrics*, September, 1906).

NEPHROLITHIASIS.

Nephrolithiasis is more prevalent than is generally supposed. A stone, having formed in the pelvis of the kidney, if too large to pass, will sooner or later produce symptoms demanding its removal. There exists a special cause for stone-development in the right kidney—80 per cent. of his cases having occurred in the right kidney. With a carefully obtained clinical history, the diagnosis of stone in the kidney is easy. Obscure, persistent pains in the region of the kidney in a patient who had a renal colic years ago, should lead to an exploration of the organ. Suppuration in stone cases is, as a rule, a late process,

and should be prevented by early surgical treatment. A wound in a healthy kidney heals quickly, and the operation of nephrolithotomy has a very low mortality. At time of operation the patency of the ureter should be established, and the kidney should not be removed if it has a patent ureter, or unless it be practically destroyed by the disease. Hæmorrhage from a kidney is generally easily controlled. A. H. Cordier (*Journal of the American Medical Association*, September 22, 1906).

NEURITIS, X-RAYS IN.

The writer considers that the x-ray should be employed in the treatment of neuritis only after all other judicious methods of therapy have failed. The exposure should be directed over as wide an area as may be safe, and frequently repeated in the beginning. The strength of the current and duration of the exposures should, as a rule, be in direct ratio to the approximate distance of the affected nerve-structures from the cutaneous surface overlying them. Idiosyncrasies must be carefully sought. Relief, if obtained, usually makes its appearance early in the treatment. Obstinate cases should receive "tonic" treatment with a medium tube for some time after the patient has been apparently cured, so as to further assure permanency. Postoperative treatment in nerve-resections is highly recommended by the writer. J. H. Comroe (*New York Medical Journal*, October 13, 1906).

NYSTAGMUS, TOXIC.

Nystagmus has been observed in certain cerebral conditions, such as meningitis, multiple sclerosis, Friedreich's disease, brain-tumors, and cerebral injuries. It occurs in about 5 per cent. of coal-miners, and compositors sometimes,

though rarely, exhibit it. The author describes a form which he says has not yet been mentioned in the literature and which he terms toxic nystagmus. He was able to observe this condition in about 8 per cent. of a very large number of rabbits subjected to experiments in which poisoning was induced with phenol, cresol, and allied substances. The symptom was evoked on the administration on the average of one gramme or less of the poison per kilogramme of body weight, and usually appeared within forty minutes of the injection of the poison toxic agent. It lasted from a few minutes to over an hour. It is suggested that the constituents of coal-tar may have something to do with the occurrence of nystagmus among miners. Weyl (*Berliner klinische Wochenschrift*, September 17, 1906; *Medical Record*, October 13, 1906).

OBESITY, DIETETICS OF.

The methods at our disposal for reducing obesity are chiefly dietetic. Second in importance is the regulation of the muscular exercise. These two means, singly or combined, usually suffice to accomplish the desired purpose, for with a decrease of the intake of fat-forming pabulum, and an increase of its destruction by exercise, the fat-content of the body must needs dwindle. These measures may to advantage be enforced by certain hydrotherapeutical and medicinal means, the latter finding their chief sphere of application, however, in the symptomatic treatment of the complications of obesity.

The first step in instituting a reduction-cure should be taken to determine the normal caloric requirement of the individual, if he is not obese. A table is given from which the approximate caloric requirement can be obtained. The

diet should then be arranged in such a way that the proper amount of calories is furnished; but if the patient does not lose weight on such a diet, then it is necessary to reduce the caloric intake. The diet in reduction-cures should be arranged in such a way that the individual receives an amount of albuminous food incorporating at least sixty to eighty grammes of albumin, necessary in order to maintain nitrogen equilibrium and to protect the tissue-albumins. The remaining number of calories may be furnished either in the form of fats or carbohydrates. The distribution of meals is often of importance, the best plan being to give three meals during the day, with two or three small meals between. Of import is also the restriction of the intake of liquids. The author adds a list of special articles of food, when they should be allowed and when prohibited, such as alcohol, meats, milk, soups, and bouillon, or beef teas, vegetables, fruits, bread, mineral waters, etc. A. C. Croftan (*Journal of the American Medical Association*, September 15, 1906).

PERICARDITIS IN CHILDREN.

Pericarditis is not so usual a concomitant of acute rheumatism as was formerly supposed; but when it does occur, it is acute, tenacious, and persistent, being attended with greater risk, both as regards the complete obliteration of the pericardial cavity and subsequent degeneration of the heart-muscle. In children it is frequently not associated with joint-affection, all that is complained of being some aching in the joints or limbs and "growing pain." The pressure of the pericardial effusion on the lower lobe of the left lung may produce signs interpreted in favor of consolidation, presumably pneumonic—dullness and bronchial breathing may be present. The

writer thinks that this occasions a frequent mistake in diagnosis. In the early stages of pericarditis, a friction-sound and a double aortic murmur are apt to be confounded. The error is invariably to interpret the murmur as due to friction. He also notes the fact that loud murmurs in the aortic region are frequently produced by minute lesions and justify a more favorable prognosis than is often given on account of them. H. W. Syers (*The Clinical Journal*, September 5, 1906).

PHAGOCYTOSIS, STUDIES ON.

Polymorphonuclear leucocytes have a distinctly greater phagocytic power for certain bacterias than for others. This phagocytic power is especially high for the group of organisms inducing septicæmic infection, and less so for other bacteria.

The large mononuclear leucocytes—that is, the large lymphocytes and endothelial cells derived from the peritoneal surfaces—have a distinctly greater phagocytic power for bacteria than do the polymorphonuclear leucocytes. This appears to be especially the case with the spirillaceæ. D. H. Bergey (*University of Pennsylvania Medical Bulletin*, September, 1906).

PHARYNGEAL ABSCESSSES,

Pharyngeal abscesses are divided into two classes by the writer, tuberculous and nontuberculous, and the latter may be subdivided into intrapharyngeal and extrapharyngeal abscesses. Tuberculous pharyngeal abscesses are the only ones which arise in the middle line of the posterior wall of the pharynx and spread outwards. They occur in cases of tuberculosis of the cervical vertebræ, and their onset is insidious. Inspection alone is valueless and must be followed by pal-

pation. If neglected, they attain considerable size, and superficial ulceration of the pharyngeal wall takes place, with danger of secondary infection. Dysphagia is generally the first symptom. These abscesses must always be opened by an incision in the neck and the lining membrane removed methodically by a sharp spoon, not by haphazard scrapings. Enlarged glands in the neck should be dissected out. The abscesses tend to recur, as only seldom is one able to remove a sequestrum from the bodies of the vertebræ.

Intrapharyngeal nontuberculous abscesses arise invariably as the result of some inflammatory affection of the tonsil. They never arise in the middle line, but always on the side-wall of the pharynx, immediately behind one posterior pillar of the fauces. They spread backward and across the pharynx, until they may nearly reach the other tonsil. A groove can always be felt between the abscess and the tonsil on the side opposite the one on which it has started. It is exceedingly rare for these abscesses to point externally in the neck. In the first stages they exist as small, hard, rounded swellings in the side-wall of the pharynx, immediately behind the posterior faucial pillar. In the advanced stages all the signs and symptoms are those of obstructive dyspnoea. Cases have been mistaken for laryngeal diphtheria.

Extrapharyngeal abscesses are usually due to the breaking down of an enlarged lymphatic gland of the neck near the pharyngeal wall. The enlargement is usually due to a mixed infection, and is not purely tuberculous. Such abscesses must therefore always have been preceded by enlarged glands of the neck, which had existed for some time. Intrapharyngeal abscesses are best treated by preventing their formation; this can be

done in their early stages by syringing the throat with an alkaline lotion, and painting the throat with some antiseptic application, such as salol in glycerin. When all signs of acute inflammation have disappeared, the tonsils should be completely removed by enucleation, thus rendering recurrence of the abscess an impossibility. When the abscess has already formed, operation is the only treatment. Intrappharyngeal abscesses should be opened through the inner wall of the pharynx. An anæsthetic should be used, and the abscess opened its whole length, so as to prevent the formation of a pocket. Extrapharyngeal abscesses must be opened externally; the operation involves the complete removal of all the enlarged glands. G. E. Waugh (*Lancet*, September 29, 1906).

PHTHISIS, SOME OF THE FACTORS THAT PREDISPOSE TO,

The writer says that predisposition consists in a condition of the bodily cells or juices in which an amount of infective material that leaves other persons unaffected calls forth an attack of the disease in the person predisposed. It is excessive susceptibility. Whatever lowers the resistance of the individual to the bacilli tuberculosis predisposes him to that disease. There are certain influences and conditions of life, as some occupations, habits, unsanitary homes, other diseases, heredity, etc., that do lower the natural resistance and predispose to phthisis. Among these heredity plays an important rôle. Children of very old or very young persons are usually predisposed to disease. Weakening of the person by long-continued hardships, by insufficient foods, by excessive sexual indulgence, by alcoholic or other drug intoxication, or by a hundred and one other causes, may act in a

like manner. Of more immediate importance to the family physician are those environments affecting the individual directly in an adverse manner and producing a personal predisposition, such as crowded and unsanitary homes, insufficient food, or food of poor qualities, unsanitary workshops and factories. Furthermore, children are more susceptible than adults; excessive child-bearing and prolonged lactation undoubtedly increase susceptibility to consumption. A cold, damp climate, by causing more indoor life, indirectly predisposes to tuberculosis. Further, such diseases as bronchial catarrh, pneumonia, etc., are more frequent in such a climate, and these diseases increase the susceptibility to consumption. Of the diseases which are predisposing causes must be taken into consideration any disease that leaves a weakened subject: pleurisy, diseases of the heart, diabetes. Besides, worry and grief and the excessive use of alcohol are also predisposing causes. Another point of practical worth regarding the factors that predispose to phthisis, is the application in the treatment. Chronic tuberculosis is a disease of alternating advance and quiescence. By keeping the patient in the "straight and narrow path" of healthful living, the lighting up of the quiescent tuberculosis can be avoided in most cases. Those things that predispose to the first infection will also tend to further infection and to activity of the focus already existing. L. P. Barbour (*Medical Record*, September 22, 1906).

RADIUM, THERAPEUTICS OF.

In a paper on the uses of radium in treatment, the author first describes the methods by which it may be employed and the effect of its emanations on the healthy tissues and on bacteria, toxins,

etc. The emanations of radium, like the x-rays, may produce on the normal skin an intense erythema, or even ulceration, which latter heals with difficulty. Schultz concludes that radium has a greater action on the vessels and exercises a deeper effect than the x-rays, and, further, that it is more effective in the treatment of malignant tumors of the skin. The growth of bacterial cultures has been arrested by exposure to radium emanations, and anthrax bacilli have been killed by an exposure of seventy-one hours to these. Wounds caused by radium cannot be infected; but an infected wound cannot be disinfected by exposure to radium.

In lupus, good results have been obtained, the resulting cicatrix being white, pearly, and smooth. In psoriasis, the applications should be of short duration, and cases have been cured after one séance. About the eighth day after the application, the diseased patch becomes of a vermilion color, and towards the third week the lesion begins to disappear. This treatment is only suitable for multiple small patches. In acne and molluscum contagiosum, good results have been obtained. The pains of tabetics and gastric crises have been ameliorated, and sensation has returned to previously anæsthetic areas of skin in cases of leprosy. Darier has cured a case of facial paralysis in a few days by the application of radium. In the treatment of malignant tumors by radium, the author finds that for two weeks after the commencement of treatment the tumor remains stationary; it then progressively diminishes in size without necrosis taking place. The author refers to several cases of epithelial cancer which were cured by this method, and mentions cases of cancer of the larynx, œsophagus, and stomach which were

benefited. In trachoma, the granulations have rapidly disappeared after being touched every day for from ten to fifteen days with a salt of radium. The author finally urges that this method of therapeutics should be extensively employed, especially as its employment is devoid of many of the difficulties which have to be considered when the x-rays are used. Lehmann (*Arch. Gén. de Méd.*, May, 1906; *British Medical Journal*, September 15, 1906).

RESPIRATORY AND GASTRIC DISEASE, DISEASED TONSIL AS A CAUSAL FACTOR IN.

It is firmly believed by the author that the diseased conditions of the tonsil in adult life are the cause of many respiratory and gastric disturbances. These conditions are often overlooked; but if one will thoroughly explore the tonsil and surrounding parts, one will find that it is bound down by adhesions, the caliber of the crypts is distorted, and material is imprisoned in their deeper recesses which undergoes decomposition and furnishes pabulum for bacterial growth whereby the resistance-power of the system is lessened. The insertion of a probe into the deeper pockets of such tonsils is often followed by the escape of pus or grumous fluid which is extremely offensive. Tonsillar symptoms are not always in evidence in such cases, except that such organs are always subject to periodical attacks of inflammation, each one of which leaves the organ still more crippled and more potential for harm. Not alone on the respiratory and digestive tracts are these deleterious effects exerted. The middle ear is often affected through the Eustachian tubes. In the air and food tubes, nature endeavors to interpose a barrier to the absorption of bacterial products by a

change in the character of the epithelium lining the respective channels, but this barrier is often surmounted. A. R. Solenberger (*New York Medical Journal*, September 15, 1906).

RHEUMATISM, PATHOGENESIS OF.

The writer thinks that his clinical study of chronic rheumatism has given abundant evidence of the influence upon it of the nervous system. Fatigue, cares, emotions, all have an influence in exciting articular muscular or neuralgic pain in rheumatics. The life of such sufferers is insecure; they sleep poorly, their physical, moral, and intellectual activities are impaired. Their normal equilibrium is disturbed by a change in the barometer, or by alimentary irregularity. They may go to bed in good physical condition, pass a wretched night, and be miserable the day following. After the disease has lasted a long time, the central nervous system itself is liable to become involved. The different forms of rheumatism vary only in the variable proportion of their pathogenic elements.

The best treatment is that which not only cures the local accident, but removes the cause, regulating the daily hygiene and using appropriate medication, exercising both the body and the mind in ways that are rational and reconstructive. A subject of chronic rheumatism must be sparing of his strength, whether physical or mental. It is often possible for such a sufferer to accomplish very much if his conduct is carefully regulated. J. Lépine (*Revue de Medecine*, September 16, 1906; *New York Medical Journal*, October 20, 1906).

SCARLATINAL ARTHRITIS, THE VALUE OF SODIUM SALICYLATE IN THE TREATMENT OF.

Pain in the joints, with synovitis and swelling, may occur with scarlet fever,

either during the febrile period or during convalescence. Though this is called scarlatinal rheumatism, it is not true acute rheumatism, but is due to the specific poison of scarlet fever. In other cases, however, the rheumatic symptoms are so marked that the conclusion becomes reasonable that an attack of scarlet fever predisposes to the infection of acute rheumatism.

In a series of cases observed by the author, those which were not treated with sodium salicylate seemed to do better than those which received this drug. In other words, as sodium salicylate has no beneficial effect on the general course of scarlet fever, it also has no effect on the joint-affection. If, however, there is a true joint-infection, the salicylate will exert its usual specific action, irrespective of the scarlet fever poison. R. Stockman (*Edinburgh Medical Journal*, September, 1906).

SKIN-GRAFTING.

The writer employs local anaesthesia and prepares the skin by washing it with sterile water or normal saline solution. A double-edged spatula knife is used to take grafts, by following a flat piece of board upward toward the imbedded hook, with a sawing motion. In this way a very wide and as long a graft as required can be made. The skin-graft should be made as thin as possible. The graft is placed on a flat holder and immediately placed on the granulating surface. If the open wound is of recent date and granulating surfaces appear healthy, even if a discharge is present, it will be unnecessary to curette or to disturb the wound in any way, except to wash it carefully with normal salt solution or sterile water. If, however, the granulations are spongy, soft, or pale, it is well to use a blunt curette to freshen

up the surfaces of the wound. All bleeding should be stopped, and the blood-clot removed before grafts are applied. In placing the grafts, they should be smoothed out on a spatula or flat spoon, and applied with the follicles and the hair running in the same direction as the hairs on the parts around the wound. The spaces under the graft, when applied, should be obliterated, and the grafts made to agglutinate closely to the granular surface, which may be accomplished by using a rolled piece of gauze. After application of the graft, this gauze is rolled on the graft, either upward or downward, until the graft gives an appearance of translucency, and the appearance of sticking or drawing in closely to the bottom of the wound.

The dressings used on portions of the body other than limbs are usually a thick piece of sterile gauze, placed on either side of the wound and held in place by strips of oxide-of-zinc plaster, which plaster is held far above the wound by the gauze. A single strip of gauze is placed over the entire wound, over the above dressing, and held in place by two oxide-of-zinc straps. In this way the patient or any one else is prevented from infecting the grafted side. The modified open dressing is usually completed by a single strip of gauze over the entire dressing. This dressing usually remains in place for four or five days, and if, at the expiration of this time, it is necessary to remove it, this can be done by cutting the dressing at right angles. The wound can then be dressed, and if blebs are formed, they should be incised with either scalpel or scissors and simply washed with a disinfectant solution, but not irrigated. W. D. Kelly (*Journal of the Minnesota State Medical Association and the Northwestern Lancet*, September 15, 1906).

THORACIC ANEURISM, SUCCESSFUL TREATMENT OF.

The writer reports the marked success attending the treatment of an interesting and apparently hopeless case of thoracic aneurism which had threatened to rupture externally. The skin covering the tumor, which was located in the median line of the neck, reaching from the level of the lower border of the third rib to just above the level of the lower border of the thyroid cartilage, was extremely thin, tense, and shiny, looking like an abscess on the point of bursting. The patient was put to bed and kept absolutely quiet. The diet was restricted as far as possible, and all stimulants were withheld. Iodide of potassium was administered internally, in doses of 10 grains, three times a day, the dose being increased so that by the end of the third week 60 grains were being taken three times a day. Collodion was painted all over the surface of the tumor every night and morning. The patient began to improve from the commencement of the treatment, until in the ninth week he was well enough to assist in the work of the hospital ward. The tumor was very much smaller, there was scarcely any visible expansile pulsation and the overlying skin was normal. The patient returned to his work. E. E. Young (*Lancet*, September 22, 1906).

THYROID EXTRACT, USE OF, TO SHORTEN THE COAGULATION-TIME OF THE BLOOD.

The writer advises the use of thyroid extract in cases of hæmophilics where a surgical operation is demanded, or where they have received any accidental wound, and also in patients whose blood has been altered by disease. The normal blood is not affected in any way by the use of thyroid extract, even its use has

produced distinct constitutional effects; it acts only upon blood which lacks fibrin ferment. The writer states that A. E. Wright has found that the coagulation-time of the blood is lengthened by starvation and shortened immediately after a hearty meal, and the efficiency of the action of calcium chloride is increased by combining it with an albuminous substance, such as an aqueous extract of thymus, thyroid, testicle, or gastric or other mucous membrane. He also calls attention to the fact that Sajous has pointed out that the adrenal secretion is the oxidizing ferment, and that thyroid extract, by stimulating the adrenal center, increases the production of this secretion and therefore of fibrin ferment, thus enhancing correspondingly the coagulating property of the blood.

Three cases of bleeders are cited by the author, in which thyroid extract has been used with marked benefit, and mentions one instance in which it has been used in profound jaundice due to obstruction of the hepatic duct.

He recommends that in all cases of delayed coagulation-time, suspected or probable, the blood should be carefully tested and the dried thyroid extract be given in three-grain doses, in capsules, three times a day. This remedy has also been used with very great effect in several cases of purpura and of spongy and bleeding gums occurring during the course of typhoid fever. W. J. Taylor (Surgery, Gynecology, and Obstetrics, August, 1906).

TONSILS, SYSTEMIC INFECTION THROUGH THE.

The writer notes that there occurs at the tonsillar surfaces emigration of phagocytic leucocytes, penetration of inorganic or at least non-living matter,

and the arrest of the lacunar bacteria at the lining mucous membrane. It seems probable, also, that the buccal secretions compose largely the fluid carried from the tonsils to the adjacent lymph-glands. Obviously, bacterial products may be taken up in the same manner. All that is necessary is that a given toxin shall come in contact with the epithelium of a lacuna. The result depends on the intensity and character of the toxin and the duration of contact. The toxæmia is therefore acute or chronic. As an example of the former we have the ordinary *acutè tonsillitis*. If this subsides, leaving the inflammatory plugs in the lacunæ, we may have them undergo degeneration and retention. Such conditions are often overlooked, because the tonsil is not thoroughly explored. These changes, with consequent absorption of the products of decomposition, may occur even in the small atrophied tonsils. Ultimately it is possible to produce in this way systemic infection eventuating in either tuberculosis or infectious arthritis. It is not necessary to assume that the organism of this disease, entering through the tonsil, should cause local reaction in this organ. It would seem probable that a condition of faulty drainage from the crypts would afford a given infectious organism better opportunity to remain in contact with the lacunar epithelium, possibly multiplying upon the detritus there found, and, upon a favorable opportunity, of becoming drawn into the tonsillar tissue with the current of buccal fluid. J. L. Goodale (Boston Medical and Surgical Journal, September 13, 1906).

TUBERCULOSIS AND INFLUENZA.

The writer considers the general analogies which exist between tuberculosis and influenza, as follows: Both diseases

have prevailed in epidemic and in endemic form. They are both respiratory diseases. The nervous symptoms and gastrointestinal disturbances of influenza are secondary and subsidiary, and are not surprising if looked at in the light of our new knowledge as to the connections between the absorbent lymphatic tract and the cerebrospinal system. Chronic tuberculosis displays a tendency to produce excavatory lesions, chronic influenza to produce plastic and consolidating lesions. The respective microorganisms of tuberculosis and influenza are aerobic, and successfully cultivated in general on blood-serum and hæmoglobin, respectively. The tubercle bacillus behaves essentially as a respiratory ferment. The influenza bacillus is one of the most characteristic members of the hæmophilic group of bacteria. Both diseases display the same tendency in their urinary and respiratory biochemistry. The excessive hyperacidity of influenza leads to the same result as the marked hypoacidity of tuberculosis, i.e., deficiency of assimilative activity. Both are infectious diseases. Neither confers immunity; both predispose, on the contrary, to subsequent attacks. Both distinctly affect the functions of relation: (a) by exciting rheumatic symptoms; (b) by giving rise to meningeal and other nervous complications. The writer concludes his article by saying that "influenza is a disease of ancestral respiratory functions; tuberculosis, a disease affecting these functions in their more recent and actual phylogenetic stage." A. W. Gilchrist (British Medical Journal, September 15, 1906).

TYPHOID FEVER, EARLY DIAGNOSIS OF.

In the fight against the spread of typhoid fever, the early recognition of the disease is of great importance. The

Widal reaction, great though its value is, does not usually appear until the end of the first or the beginning of the second week. Of late years, blood-cultures have been used in hospitals a good deal, and it has been found that the typhoid bacilli can often be isolated from the blood very early in the disease, and long before the Widal reaction has appeared. The usual method of blood-culture, however, requires large quantities of blood and culture-media, and can not well be applied outside of hospitals with properly equipped laboratories. About five years ago, Conradi (Münchener medizinische Wochenschrift, Bd. LIII., S. 1654, 1906) discovered that bile *in vitro* hinders the coagulation of the blood, and of late he has applied this knowledge to perfecting a method of cultivating typhoid bacilli from the blood. This method has the advantage, possessed also by the Widal method, that the apparatus needed is simple, and that the preliminary steps can be taken by a man untrained in bacteriology. Conradi's outfit consists of a small sterile bottle of bile to which a little peptone and glycerin has been added, a special blood-lance, and a sterilized pipette. The physician obtains the blood by lancing the ear (only one-half to two centimetres being necessary), inoculates it into the bile mixture, and returns the inoculated flask to the laboratory, where, after an incubation of sixteen hours, the bile is reinoculated on to lactose-litmus-agar. Conradi claims that a positive diagnosis can be made in thirty hours in the great majority of cases. The method, if on further investigation it proves to be feasible and successful, might well supplement or even supplant the Widal method, and should certainly be looked into by the workers in the now numerous board of health laboratories. Editorial (Jour-

nal of the American Medical Association, October 20, 1906).

VASCULAR TENSION IN CHRONIC ILLNESS.

Attention is called by the writer to the recently recognized fact that an intact vascular system, both functionally and anatomically, is essential to the health of the body in general and the heart in particular. Active cardiac stimulation is often more harmful than advantageous, unless measures are used to diminish toxæmia, thus permitting the heart to do its work. The heart is often competent to do its work, when the contrary is suspected, if vascular relaxation is overcome. The only three drugs which the author regards as useful for this purpose are atropine, adrenalin, and digitalis, which are useful in the order mentioned. Caution should be exercised in giving circulatory stimulants during fever.

Three classes of high arterial tension in relation to cardiac failure may be distinguished: 1, Those in which the spasm results from prolonged nervous stress, associated with improper habits of living. 2, Those in which, in addition to spasm, there is fibroid change in the vessels. 3, Those in which high tension is followed more or less suddenly by low tension, the arteries resembling veins in their caliber and compressibility.

The following rules are suggested to clinicians: 1, Cardio-vascular stimulants should not be given when careful reflection will show that cardiac relaxants are appropriate. 2, More attention should be given to protecting the heart from unnecessary labor. 3, If the vessels are properly treated, the heart will in many cases take care of itself. 4, The heart should not be stimulated when the aim is to diminish its burden and diminish toxæmia. H. A. Hare (Ameri-

can Journal of Medical Sciences, August 1, 1906).

VENOUS BLOOD-PRESSURE IN MAN.

The author insists that our knowledge of the circulation must be built up by induction on specific facts. The venous system falls functionally into two divisions, the somatic and the splanchnic. In the superficial vessels of the former, the blood-pressure is easily measured, and is determined partly by local causes and in part by circulatory conditions elsewhere. The channels of the splanchnic division are capable of accommodating the whole blood-mass, and the general arterial pressure is probably chiefly regulated by the conditions of the splanchnic circulation—is raised by the contraction of its vessels and lowered by their dilatation. In the upright position blood tends to gravitate into the splanchnic area, but in the normal human subject there is a compensatory vascular contraction, somewhat overbalancing the force of gravity, so that the maximum arterial pressure, at least, is slightly higher in the upright than in the recumbent position. In debilitated subjects this compensation may be deficient, and arterial pressure decidedly lower in the upright than in the supine position. This is often evidenced by failure of the radial pulse when the arms are elevated above the head while standing. In the lower animals excessive arterial pressure is prevented by reflex inhibition of the vasomotor center for the splanchnic area through the depressor nerve. The frequent failure of pulse in the elevated wrists of patients with valvular heart-disease, who have high blood-pressure, indicates that an essential functional peculiarity of such disease is a heightened irritability of the depressor reflex.

Venous blood-pressure may be raised either by increasing the inflow or by decreasing the outflow from the veins. The former may be caused by local exercise of the member examined, the latter by elevating one arm while the venous pressure is measured in the other. Muscular exercise, local or general, raises venous blood-pressure and presumably pressure in the right side of the heart.

Intrinsic contractility of the superficial veins plays an important part in their physiology, and probably through this the valves are brought into action. The natural external stimuli of the venous contraction are cold and light mechanical irritation. Venous pressure is lowered by cold, which contracts the arterioles, and is raised by heat, which dilates them. Inspiration normally dilates the superficial veins of the extremities and increases the blood-pressure within them. The respiratory movements of the veins rise from respiratory changes in arterial blood-pressure. Transmission of cardiac pulsation into the veins is common. During digestion the pressure on the veins of the hands sometimes falls and sometimes rises; the former is probably a sign of the most perfect physiologic compensation. The other may be looked on as a sign of relative physiologic weakness.

Cases of disease involving the apparatus of circulation compared with normal subjects can be naturally classed under four heads: (a) The ratio of arterial to venous blood-pressure is increased. This is due to positive elevation of arterial pressure, produced in some cases by disorders, such, possibly, as vasomotor spasm or increased viscosity of the blood, or in others by arteriosclerosis. (b) The ratio of arterial to venous blood-pressure is decreased. This is usually due to positive elevation of venous blood-pres-

sure, either by physical obstruction to the output from the right heart, or by functional changes involved in the so-called gouty diathesis. Abnormally high venous blood-pressure, not accounted for by mechanical causes, is a clinical sign of disorder of intermediary metabolism.

(c) The ratio of arterial to venous blood-pressure is not materially changed, but both pressures are abnormally high. Such a condition is found in general plethora; persons in a certain stage of gouty dyscrasia belong to this class. (d) The ratio of arterial to venous blood-pressure is not materially changed, but both pressures are abnormally low. Most cases of simple asthenia probably fall within this class. The condition has been noted in individuals recovering from broken compensation attending mitral insufficiency. Although one and the same subject at different stages in the development of his dyscrasia, as in gout, may occupy a place now in one, now in another of these classes, the discernment of the circulatory attributes by which the allotment must be made on any specific occasion is of the utmost pathologic interest and therapeutic importance. H. Sewell (*Journal of the American Medical Association*, October 20, 1906).

WEIGHT, RELATION OF, TO MEASUREMENTS OF CHILDREN DURING THE FIRST YEAR.

The height and circumference of head, chest, and abdomen in normal, well-nourished children increase as the weight, the greatest increase in the measurements occurring during the first quarter of the first year, when the greatest gain in the weight takes place; the next greatest increase in the measurements occurs, coincident with the gain in the weight, during the second quarter

of the year; while the least increase in the measurements takes place in that part of the year when the gain in the weight is least, the third quarter of the year.

The height, and the circumference of the head and chest, in fairly well-nourished children, likewise increase primarily as the weight, although in this class of patients age plays more of a part than in the well-nourished. The greatest increase in measurements occurs in the first quarter of the year, with a similar gain in the weight. The increase in the height and in the circumference of the head is slightly greater in the third quarter than in the second quarter, although the gain in weight during these periods is the same, showing the slight bearing that age, irrespective of weight, has on the growth of the body; while the smallest gain in the weight and growth is in the last quarter of the year.

It is in the poorly-nourished children that age plays its most important part, and the measurements of these children, compared with the well-nourished, increase most rapidly in the last part of the year. In the poorly-nourished, most of whom are probably somewhat premature, when the weight is below normal all the measurements are correspondingly below normal. The height and circumference of the head reach the normal birth-measurements a little ahead of the weight, while the chest and abdomen are two months later in reaching the measurements of a normal child at birth.

When the weight is stationary, the increase in the measurements is very small, depending upon the slight influence which age has upon the growth of the infant notwithstanding the weight. The measurements of infants of the same weight, notwithstanding the age, are

very similar, the small difference depending, as when the weight of a child is stationary, upon the very slight influence of age upon growth.

The final conclusion can be drawn that during the first year of life the primary factor in the increase of the measurements of the body is steady, consistent increase in the weight, the influence of age being secondary and much less important. E. C. Fleischner (*Archives of Pediatrics*, October, 1906).

X-RAYS IN OCULAR THERAPEUTICS, VALUE OF.

X-ray therapy marks a great advance in the treatment of superficial epithelioma and rodent ulcer of the eyelid, and can usually be relied upon to effect a cure. If unsuccessful, then electrochemical sterilization may be utilized, or finally excision with or without plastic operation. X-ray treatment has proven of value in the more extensive orbital carcinomata, but it is conceded that the deeper the growth the less favorable will be the result. A sufficient number of cures of sarcoma of lids and orbit have been reported to warrant its exhaustive trial in all types of this disease, more radical operative procedures with subsequent ray-applications being indicated in event of primary failure. X-ray treatments usually exert an anodyne influence on malignant disease of the eyelids and orbit, but are occasionally reported to cause exacerbations of pain.

Noteworthy progress in the treatment of trachoma has been effected by the utilization of x-ray therapy. It should invariably be utilized if ordinary methods fail. The weight of evidence indicates the positive value of x-ray treatment of vernal conjunctivitis. There is

evidence which points to the value of x-ray therapy in chronic conjunctivitis (Kassabian), scleritis, episcleritis (Pardo), traumatic uveitis (Jackson), conjunctival tuberculosis (Stevenson), corneal ulceration (Dennett), glioma (Hilgartner and Würdemann), and gummata (Parker). It is believed that the rays will cure malignant disease involv-

ing the cornea and conjunctiva, provided treatment is applied sufficiently early.

The treatment of congenital naevi by the rays is likely to prove effective, and should be exhausted before electrolysis or radical operation is considered. G. Oram Ring (*Journal American Medical Association*, September 29, 1906).

Book Reviews.

PRINCIPLES OF CLINICAL PATHOLOGY. By Dr. Rudolph Krehl. Translated by A. Walter Hewlett, with an introduction by William Osler. 504 pages. J. B. Lippincott Co., 1905.

Although this review is somewhat late in appearing, it is because of delay in receiving the book. It is perhaps better so, because earlier reviews may have been overlooked and we regard this as a work of paramount importance. The reviewer has been hoping for a long time to secure a copy in English. The teaching of physiology at present is, from the standpoint of applicability, defective. The exceeding value of a working knowledge of physiology to the practitioner is obvious, although it is common to hear expressions about the subject more or less contemptuous from medical practitioners and especially from undergraduates. There are many valuable works on general pathology, notably the recent edition of Lazarus Barlow's book which resembles this one in its general scope and treatment. It has been an exceeding great pleasure to read this volume and to reread it. Osler in his introduction alludes to his great satisfaction in Williams's principles of medicine, but even that is incomplete if not supplemented by such books as Herter's lectures on clinical pathology and Cohnheim's lectures on general pathology, and this one supplies more explanatory data than all those. It is needless to discuss the details of the book but it is essential to give the utmost prominence to the value of works of this kind. To quote from the author, "Just as physiology deals with the functions of the normal body, so pathologic physiology deals with the functions when the organs are placed under morbid conditions, and this is the subject of our discourse." The volume consists of twelve chapters; first, the heart; second, blood-vessels and lymph; third, the blood; fourth, infection and immunity; fifth, respiration; sixth, digestion; seventh, nutrition and metabolism; eighth, disorders in carbohydrate metabolism; ninth, gout; tenth, fever; eleventh, the urine; and twelfth, the nervous system. It is enough to mention the chapter headings to show how complete it is. Every page is illuminating, and the whole presents revelations which are delightful, encouraging, and instructive, to professors, students, and practitioners.—J. M. T.

SURGICAL SUGGESTIONS. By Walter M. Brickner and Eli Moschcowitz. 58 pages. New York Surgical Publishing Co., New York, 1906.

This tiny volume reveals upon close examination, a marvelous aggregation of important thoughts, systematically arranged. In addition to the black lettering, there is explanatory side-lettering in red, enabling one to turn quickly to the subject sought for. It would seem to be adapted to the needs of the general practitioner, especially the house surgeon, and could be carried in the hip pocket or may accompany a small surgical case.—J. M. T.

INFLUENCE OF THE MIND ON THE BODY. By Paul Dubois, of Berne. Translated by L. B. Gallatin. 63 pages. Funk & Wagnalls, 1906.

Those who may not desire the larger book on psycho-neuroses recently reviewed at length in the *Monthly Cyclopedia*, or those for whom it is too technical, will get in this a clear review of the author's chief contentions, along with many valuable suggestions.

HEALTH AND CARE OF THE BABY. By Louis Fischer, M.D. 114 pages. Funk & Wagnalls, 1906.

Dr. Fischer, who is a teacher of pediatrics of established reputation, has given us an excellent little book for mothers and nurses, which will be welcomed by many. The general arrangement is similar to others of like scope, giving prominence to the questions of infant-feeding, hygiene, various disorders and emergencies. There is a full index and blank pages in the rear for memoranda.—J. M. T.

THE EYE AND THE NERVOUS SYSTEM. Edited by William Campbell Posey and William G. Spiller. 988 pages. J. B. Lippincott Co., 1906.

The work under consideration is handsome, thorough, and masterly. The contributors are twenty-two in number. In the preface it is stated that there is no book in the English language which covers the ground. The aim of the editors is to present under a single cover the subjects of ophthalmology and neurology in their manifold correlations. In the instances where the subjects are seen to overlap, it has been done intentionally, to present them from different aspects. It is impossible to do justice to so valuable a work in a short review, but it may be sufficient to say that in scope and character it is unique and satisfactory to enable one to attain a thorough understanding of these most important subjects. Among the contributors are F. X. Dercum, Alexander Duane, William Hirsch, Edward Jackson, J. Hendrie Lloyd, Chas. K. Mills, B. Sachs, E. W. Taylor, G. L. Walton, Casey A. Wood, H. Y. Würdemann, G. E. de Schweinitz, C. H. Frazier, Howard Hansell, C. W. Burr.—J. M. T.

Books and Monographs Received.

The Editor begs to acknowledge, with thanks, the receipt of the following books and monographs:—

"Uric Acid. The Chemistry, Physiology, and Pathology of Uric Acid and the Physiologically Important Purin Bodies, with a Discussion of the Metabolism in Gout." By Francis H. McCrudden, 1905.—"Report of the Medical Commission for the Investigation of Acute Respiratory Diseases, of the Department of Health of the City of New York. Part I. Studies on the Pneumococcus." 1905.—"Second Report of the Wellcome Research Laboratories at the Gordon Memorial College, Khartoum." By Andrew Balfour, 1906.—"Rhythmotherapy." By S. S. Wallian, Chicago, 1906.—"Transactions of the Twenty-eighth Annual Meeting of the American Laryngological Association." 1906.—"Premier Congrès de la Société Internationale de Chirurgie, Bruxelles, 18-23 Septembre, 1905." 1906.—"Sommeil Electrique. Epilepsie Electrique et Electrocutation." Par Louise G. Rabinovitch, Nantes, 1906.—"Pathology and Diagnosis of Myocardial Inflammations and Degenerations." By Judson Daland, Philadelphia, 1906.—"Aneurysm of the Heart with Thrombosis of the Left Coronary Artery." By Judson Daland, Philadelphia, 1900.—"Indicanuria Complicating Typhoid Fever." By Judson Daland, Philadelphia, 1904.—"Primary Malignant Endotracheal Tumor. Preliminary Report." Judson Daland and Joseph McFarland, Philadelphia, 1904.—"Aids to the Recognition of Disease." By Judson Daland, Philadelphia, 1904.—"The Treatment of Simple Chronic Glaucoma by Miotics." By William Campbell Posey, Philadelphia, 1906.—"Report of two Cases of Congenital Anomalies of the Eyes, Illustrating the Transmission of Such Defects from Mother to Daughter." By William Campbell Posey, Philadelphia, 1903.—"The Combined Method of Treatment in the Arrest and Cure of Tuberculosis." By H. B. Weaver, Asheville, N. C., 1906.—"The Present Treatment of Squint." By William Campbell Posey, Philadelphia, 1906.—"Notes on Fluorescence." By Henry G. Piffard, New York, 1905.—"The Newspaper and Medicine." By H. Sheridan Baketel, Jersey City, 1906.—"The Practitioner's Part in the Movement Against Tuberculosis." By J. C. Wilson, Philadelphia, 1906.—"Address of the President at the Twenty-eighth Meeting of the American Laryngological Association, at Niagara Falls." By J. W. Gleitsmann, New York, 1906.—"A New and Efficient Procedure in the Treatment of Catarrhal Deafness." By J. W. Jervy, Greenville, S. C., 1906.—"The Speaking and Singing Voice as Affected by Abnormal Conditions of the Nose and Throat." By W. S. Anderson, Detroit, Mich., 1906.

We also beg to acknowledge, with thanks, the receipt of the following from the United States Department of Agriculture, Washington, D. C.: "Annual Report of the Office of Experiment Stations for the Year ended June 30, 1905."—"Exports of Farm and Forest Products, 1903-1905, by Countries to which Consigned." 1906.—"Trade with Non-Contiguous Possessions in Farm and Forest Products, 1903-1905." 1906.—"Imports of Farm and Forest Products, 1903-1905, by Countries from which Consigned." 1906.—"Local Conditions as Affecting Farm Values, 1900-1905." By George K. Holmes, 1906.—"Russia's Wheat Surplus; Conditions Under Which it is Produced." By I. M. Rubinow, 1906.—"The Effect of Copper upon Water Bacteria." By K. F. Kellerman and T. D. Beckwith, 1906.—"The North American Eagles and Their Economic Relations." By H. C. Oberholser, 1906.—"Market Milk Investigations, II. The Milk and Cream Exhibit at the National Dairy Show, 1906." By C. B. Lane, 1906.—"The Brown-tail Moth and How to Control It." By L. O. Howard, 1906.—"Seed of Red Clover and Its Impurities." By Edgar Brown and F. H. Hillman, 1906.—"Practical Information for Beginners in Irrigation." By S. Fortier, 1906.—"Statistics of Hunting Licences." 1906.

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Editorials.

DEPARTMENT IN CHARGE OF
J. MADISON TAYLOR, A.M., M.D.

MEDICINE AS A SCIENCE AND MEDICINE AS AN ART: ALSO, IN VIEW OF THIS, A FEW WORDS ABOUT SPECIALIST AND GENERAL PRACTITIONER.

TO-DAY, in my judgment, we are becoming victims, as it were, of too much science and too little art in medicine. Of course, it is a good thing to have science

to the uttermost, and profit as much and as well as may be by her teachings. But we must not be in a hurry to believe absolutely the results of the best laboratory findings as applied to the art of medicine, until thoroughly tested and proved to be true by the actual daily work of the clinician. And even then several years should elapse and very many observations be made, before we overturn the old and firmly-established dicta for what, many, many times, is ephemeral and passing. How many illustrations I could give! A few only are required "to point the moral and adorn the tale." I take it that every good practitioner in large centers of population, at least, is familiar with all the later teachings of the laboratory, as regards the diagnosis of stomachal ailments, and yet practically how few there are which tell the practitioner what to do and also succeed in relieving suffering patients from symptoms. With chronic gastritis and atrophy of gastric tubules, whilst relief may occasionally be given by dilute hydrochloric acid after meals, with or without pepsin, frequently it will utterly fail. The food which chemical, biological, bacteriological research would surely indicate as bad, is just the food that suits the stomach and is well digested and assimilated. Formulæ, at times, which seem complicated and without rational basis, so far as one can judge on scientific grounds, empirically used and adopted, have done lots of good. Thus many a practitioner who has grown gray in service has discovered, in one way or another, at the end of many busy days, a few combinations upon which he pins his faith and which will relieve when almost everything scientific has been tried and utterly failed. Of all panaceas for chronic malarial poisoning there is no combination equal to tincture or extract of Warburg—and yet why? Impossible to answer by reason of the "olla podrida" of drugs. Its efficacy, however, is undoubted. The experienced practitioner who knows and has seen a lot is often to-day put aside for the younger man, often a specialist, simply because the public are not taught *continuously* his immense value. The great consultant in medicine and surgery is only on rare occasions really very helpful in a practical way, so far as doing for the patient is concerned, unless he is familiar with his antecedents from the *family physician*, or has been the *family physician* of the individual about whom he is consulted. The best consultant is usually, if not invariably, the man who has drawn out of general practice because by age and experience he is entitled and ought to do so, and for whom his old patients are wise enough to send when in great trouble, to consult with the younger man who has taken up the toga which the older man has cast off for good and sufficient reasons.

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ACUTE LEPTOMENINGITIS.

THE word "meningitis" is derived from the Greek word meaning "membrane," and means "inflammation of membrane." Through custom, it has come to be limited, in its generally accepted meaning, to inflammatory processes of the membranes of the brain and spinal cord. In the public mind the word is associated almost entirely with the epidemic forms of the disease, and I fear there are many of our professional brethren who fail to make proper distinctions between the various forms, or to make any classification according to anatomical lesions. We should carefully differentiate between pachymeningitis and leptomeningitis; we should specify as to whether the case is acute, sub-acute, or chronic, and name the etiological factor and the field of the lesion.

Pachymeningitis is an inflammatory process confined to the dura mater: it is external or internal, according to the layer of the dura involved. It may be acute, sub-acute, or chronic; we can name the etiological factor, and we can designate the field of the lesion, i.e., the portion of the membrane involved in the morbid process.

Leptomeningitis is an inflammatory process affecting the pia mater and the arachnoid membrane. These two membranes, anatomically distinct, are so intimately and constantly associated in disease as to have come to be considered by clinicians as, for all practical purposes, one membrane, and so are called, by some writers, the "arachnopia." I shall so call them in this paper. These are the nutrient and vascular membranes of the brain and cord, and disease processes involving them are, for this reason, intensely interesting.

Leptomeningitis may be acute, sub-acute, or chronic; and may be classified according to its etiological element, its anatomic field, and the degree of virulency manifested. The writer will limit himself, in this paper, to the acute forms of the disease.

Etiology.—Acute leptomeningitis is the result of infection of the arachnopia with one or more pathogenic microorganisms. The bacteria that have been described as the "specific microorganism of cerebrospinal meningitis" are legion, and yet I am inclined to think that most of the investigators have been describing the same microorganism, or group of microorganisms. We have the diplococcus lanceolatus of Fränkel, or pneumococcus, and it is more than probable that this microorganism is responsible for most of the meningitis we see. Keschevski has described a diplococcus, distinguishing it from that of Fränkel by "a globular form, frequent disposition in fours, not staining by Gram's method, and difficulty in causing infection in animals when subcutaneously inoculated." Weichselbaum and Jaegar, together with Haebner, describe the diplococcus intracellularis. Councilman, Mallory, and Wright attribute an epidemic of cerebrospinal meningitis

occurring in Massachusetts in 1898, to "a micrococcus characterized by its growth in pairs, and by certain cultural and staining properties." The pneumococcus is probably the chief mischief-maker, gaining access to the meninges *via* the nasopharynx, Eustachian tube, middle ear, and thence by blood-vessels and lymphatics. I am inclined to think that the microorganism described by Weichselbaum and Jaeger is simply a modified pneumococcus, and I believe that eventually, all the "specific" microorganisms of acute leptomeningitis, including those of the epidemic forms, will be found to be either modifications of the pneumococcus, or to belong to the same group. In addition, we have, as infecting microorganisms, the tubercle bacillus, the streptococcus pyogenes, staphylococcus pyogenes aureus, and bacillus communi coli.

The disease is associated with many pathological conditions, and in the majority of cases occurring in private practice, the origin of the trouble is either not searched for, or when looked for it is often not recognized. In a number of cases it is impossible, with the means at the hand of the physician, to satisfactorily demonstrate the causal factor in a case. No general or local source of infection can be found, and we are at a loss to demonstrate, clinically, the immediate cause. Let us take under consideration the possible causes:

1. The pneumococcus (or some closely allied micrococcus).
2. Suppurative processes: aural, nasal, in the bony structures about the head. Caries of cranial bones.
3. Acute general and infective febrile diseases, and especially the "children's diseases," may be complicated or followed by meningeal infection. It is claimed by some writers that the disease develops as a result of marasmic conditions in children, and as a result of miliary aneurisms, embolism, sclerosis of blood-vessels, and of diarrhoea and dysentery. While these conditions may contribute by reducing the normal resisting power of the membranes and their ability to throw off infective material, some more immediate causal factor can nearly always be found.
4. Traumatism, sunstroke, surgical operations.
5. Tuberculosis.

Leptomeningitis, in which the lesion is at the base of the brain, posteriorly, the anatomic basilar meningitis, or posterior basic meningitis, is so often of tubercular origin, or so often assumes tubercular characteristics, that the old anatomic division has come to be regarded, even by medical men, as practically synonymous with tubercular meningitis.

Pathology.—The post-mortem findings in acute leptomeningitis vary with the form of the disease, its duration, and the grade of infection. Sometimes death intervenes so quickly that no exudate has been formed, and in these cases we find patches of intense hyperæmia at the affected portions of the membrane. The

lesions may be found at any portion of the arachnoid, and in those cases in which the involvement has been mainly cortical the most intense infection is over the motor areas of the brain. Commonly the findings consist of inflamed areas, covered with exudate, which may be serous, sero-purulent, or purulent. There may be some hydrocephalus; this is more common in those cases in which there is marked swelling of the tissues about the foramen of Majendie, and more or less obliteration of the fourth ventricle. Usually the ventricles and spaces of the cord contain an excess of fluid, the character of which varies from clear serous to pus. The ependyma is often involved, and at times we get encephalitis, the changes being inflammatory and degenerative. The lesions may be general or circumscribed, unilateral or bilateral; may be confined to the base, with or without scattered patches of inflammation and exudate scattered over other portions of the surface. There may be numerous patches of opacity in the pia, scattered about the base and over the lateral portions, presenting shreds of lymph, with pus or turbid, yellowish serum. When the lesion involves the base, these conditions involve also the sheaths of the cranial nerves. These may even be found to be softened and degenerated. In those cases which arise from ear diseases there is often sinus thrombosis, sometimes abscess. In tubercular lesions, we find along the courses of the blood-vessels, and scattered throughout the membrane, deposits of pearly-gray tubercles. This deposit may follow the cranial nerves, being most commonly found along the third nerve and optic, occasionally along the olfactory and crura cerebri. Sometimes we are able to demonstrate the presence of tubercular lesions in other organs.

In the cerebrospinal forms the lesions are found along the cord as well as the brain. In the epidemic forms the hyperæmia is more intense, as a usual thing, than in the sporadic forms, and the exudate is more often of a purulent character.

Symptoms.—The clinical picture of acute leptomeningitis varies according to the nature of the infection, the location and extent of the lesion or lesions, the duration of the disease-process, and the amount and character of the exudate. Sometimes the symptoms of the disease are combined with or masked by the symptoms of some concurrent acute general disease, and the difficulty of diagnosis is increased. The most common symptoms of acute meningeal infection are headache, vertigo, nausea, vomiting, photophobia, restlessness, stupor, coma, changes in pulse, respiration and temperature, which in the vast majority of cases *bear no fixed or approximate ratio toward each other*, painful contractions of the cervical muscles, and muscular spasms in other parts of the body, optic neuritis, and spasm of the ocular muscles, strabismus (usually internal), and nystagmus.

In cases of acute leptomeningitis, sporadic, the most common history is as follows. I would say that in a series of more than thirty cases I have seen it vary

only once, and that was in a case in which there was a history of a previous attack of meningitis, and in which the second attack was induced by acute petroleum-poisoning.

The child (for this is essentially a disease of childhood, though in epidemics it attacks adult and child without favor, and we occasionally see a sporadic case in an adult) has a "cold;" it is restless and irritable for several days, or it may be stupid and somnolent. It is hypersensitive to sound and light, *as well as to any jar of the bed or house, and to sudden movements on the part of any person in the room.* It usually complains of headache, or, if it be too small to tell its troubles, its facial expression reveals the presence of headache, which may be frontal or occipital, or more or less over the whole head. There is anorexia, and constipation is the rule, though I have seen a few cases in which there was diarrhoea. In the majority of cases, a physician is not called during this stage, and when he is finally called he finds his patient with acute bronchitis, bronchopneumonia, or pneumonia, photophobia (not a constant symptom), anorexia, headache, and complaining of pain at the back of the neck, sometimes extending along the spine. There may be a history of convulsions, or convulsive twitchings of muscles (in the case of cortical lesions these are often of the Jacksonian type). Retraction of the head and spasm of the cervical muscles is an early and a constant symptom, and there is often rolling of the head from side to side. Nausea and vomiting are common; the temperature is usually high, varying from 102° F. to 106° F., pulse from 100 to 170, and respirations from 10 to 60. It is impossible to too strongly emphasize the lack of ratio between pulse, respiration, and temperature. *This is characteristic of the disease.*

The pupils may or may not be affected—more commonly not, though in a certain proportion of the cases, there may be some inequality in the contraction. During the initial stages the mental changes are usually pronounced.

It is at this point that we usually make our errors in the diagnosis of this disease. Too many of us are prone to look on them as cases of pneumonia, or some allied respiratory affection, for they certainly do exhibit the gross appearances of lung-complications; if, however, we will continue our examination to include the spine, cervical and dorsal regions, if we look for spasm or spastic conditions of muscles, find the points of tenderness, and search for the evidences of involvement of nerve-origins and reflex centers in the brain, medulla, and cord, we should have no great difficulty in establishing the diagnosis.

It is my firm conviction that *the large mortality among children, laid at the door of respiratory disease, is in a very large measure due to unrecognized leptomeningitis, and that the supposed rarity of the latter disease is due to the same lack of recognition.* Leptomeningitis is not a rare disease, but among children a very

common one, and all cases among little ones which present a lung involvement should be given especial attention as regarding the possible presence of meningeal infection, great care being exercised to make the examination of the spine most thorough. By carefully searching out and locating the segments of the cord which are involved in the disease process, we can prognosticate as to the viscera and muscular structures, special sense-organs, etc., which are or may be involved, *for, according to the segments or areas affected, the structures supplied by nerves originating in, arising from, or taking their departure from those areas or segments will be affected.* Irritation of nerve-origins, roots, and ganglia will be surely demonstrated by derangement of function in the structures supplied by the endings of those nerves.

In the basilar form of the disease (and by this I mean the anatomic division), which is not necessarily tubercular in its origin, there is usually involvement of the cranial nerves, and we have motor, sensory, and special-sense disturbances, which sometimes subsequently become paralyses. Sight, hearing, taste, and smell, are often disturbed, and sometimes even lost. We observe ptosis, retraction of the upper lid sometimes, and strabismus, pupillary changes, pain in the head, face, and spine (upper). When hydrocephalus occurs, we get spastic paralysis, which becomes general.

Common to all forms of acute leptomeningitis (except in some of the cases of tubercular leptomeningitis, in the earlier stages), is the absolute lack of ratio between pulse, respiration, and temperature. In the early stages of the tubercular form, this ratio is fairly well maintained, but is lost as the disease progresses. The pulse in the other forms varies in its frequency. Generally it is rapid in the first part of the disease, becoming slower later, and, as the disease progresses, becoming again more rapid. Tension is usually low, but is subject to great variation, and we may find a high-tension pulse until near the termination of the case. The frequency of the pulse-rate may be raised, the temperature and the frequency of respiration lowered, or vice versa. The respiration may be of the Cheyne-Stokes type, *but is more commonly a shallow respiration, irregular, but lacking the classic rhythm of the Cheyne-Stokes respiration.* It is choppy, and very prone to cease suddenly. Sighing respiration is common to the disease. The most important feature to be noted in connection with pulse, respiration, and temperature is the lack of ratio in their increase and decrease. Temperature varies greatly. It may go high in the beginning, and remain so; it may go high, and drop; or it may vary between subnormal and high, with long and sudden jumps, for which it seems almost impossible to account. As the disease progresses, these long jumps become one of its features. The irregularity of the temperature-curve, and the sweating so often observed after the disease has progressed for a time, are in all probability due to the lack

of nourishment and body nutrition. I have observed that these subside in direct proportion to the increase of nourishment taken by the patient.

In those cases in which the lesion is cortical, the most prominent and common symptoms are those of motor irritation. There may be Jacksonian convulsions, limited to a part, or become general in character, as more of the motor area becomes involved. Delirium is more active in these cases, giving way to stupor and coma as the disease progresses, and the exudate increases. There may be motor aphasia in some degree. Cortical and basilar lesions may co-exist, and we then get in combination the characteristic symptoms of both forms.

Muscle-soreness is common to all forms of the disease, and is usually pronounced. The slightest irritation of the body surface is often sufficient to cause convulsive contractions of muscles, or to cause the patient to assume the oposthotonic position. These patients will assume this position, resting on the back of the head and the heels, or they will assume the knee-chest position, seeming to derive some comfort from it. The "tache cérébrale" or "tache méningéale" is often observed.

The eyes usually lack expression, are more or less fixed in gaze, and there may be nystagmus. The head is often rotated from side to side, the movement being either slow or rapid. In this condition, the hair is often worn off the back of the head.

The paralyses accompanying this condition are to be carefully noted, and as far as is possible, to be guarded against. They are paralysis of the muscles of deglutition, those of the larynx (inf. and sup. laryngeal nerves), muscles of the eye (3d cranial, 4th and 6th), muscles of peristalsis in bowel, sphincter ani, internal and external (perineal, pudic, 4th sacral, and hemorrhoidal nerves); sphincter vesicæ (vesical nerves); involvement of the pneumogastric. With the passing of the crisis, most of these paralyses disappear. There is at times a paralysis of the optics, which does not disappear at the crisis, but must be actively treated.

The cry is peculiar, and once heard is never forgotten, never mistaken. It has a ringing, brassy quality, that pierces one like a knife, and makes these cases very difficult for a sympathetic nurse.

In the tubercular form of the disease, the prodromal stage is usually much longer than in the other forms, the premonitory symptoms being characteristic. For a period of from two to three weeks, the victim is restless and peevish, showing marked mental apathy or irritability; sleep is disturbed, the tongue coated, anorexia, sometimes nausea and vomiting. There is usually marked pallor, and the patient has the appearance of being sick. There is some rise of temperature, even at this stage, but commonly it is inconsiderable, running with morning remissions and evening exacerbations, between 99° F. and 101° F. The *pulse increases in*

proportion to the increase of the temperature, and there is some increase in the frequency of the respirations. As the disease progresses, the symptoms become more decided, the pulse and temperature lose their ratio, and the pulse becomes more or less irregular and loses its tension. The respirations become irregular, and the respiratory movements of the muscles of the diaphragm and thorax are not synchronous, and there is retraction of the abdominal wall, with spasm and rigidity of the muscles. The pupils are often unequally dilated, and there may be slow movements of the eyes from side to side, ptosis, strabismus, or some other form of paralysis or spasm. There is hectic flushing of the cheeks. The abdominal retraction increases, the temperature continues to rise, and the respirations are prone to assume Cheyne-Stokes characteristics before death intervenes. Opisthotonos is usually quite marked. In the tubercular cerebrospinal form, we find the above mentioned symptoms, together with evidences of spinal involvement, clonic movements, and rigidity of the limbs.

I believe that there is no difference between epidemic and sporadic leptomeningitis, other than in the degree of virulency of the infection. There is the same microorganism operating in both cases; the symptoms of epidemic leptomeningitis are the symptoms of the milder forms intensified by the virulency of the infection. The malignancy of the infection varies in different epidemics, and in different localities. It is in this form of the disease that we most commonly get the petechial hæmorrhages which have given the disease its synonym, "spotted fever." The onset in the epidemic is more sudden and the prostration more profound than in the endemic forms, the disease being usually ushered in with a chill, high fever, intense pain in the head and at the back of the neck, convulsions, muscular spasms, often coma, and always profound depression of mind and body. Pulse is feeble and irregular, first rapid, then slow, then rapid and very thready. Reflexes are apt to be abolished early in the disease, and there is early retraction of the head. The hypersensitiveness to light, sound, jar, and movement more or less common to all forms of the disease, is most highly developed in the epidemic forms. In cases less pronounced in the malignancy of the initial invasion, the symptoms are more slowly developed, and there is more apt to be nausea and vomiting.

Blood-examination shows a great increase in the proportion of leucocytes, and we find usually, by percussion and palpation, an enlarged spleen.

Mark the characteristic symptoms: lack of ratio between pulse, respiration, and temperature, an irregularity in respiration, in a degree simulating the Cheyne-Stokes type, but lacking its characteristic progression.

Constipation is the rule in these cases, and among the complications which may arise are intestinal stasis, paralyses of the sphincters, with involuntary passing of urine and fæces. It sometimes happens that in the early stages there is retention

of urine, which gives way to incontinence when paralysis occurs. There is, not infrequently, complete suppression of urine, and albuminuria, glycosuria, and hæmaturia are not uncommon. I have seen, in one case, herpes zoster, and herpes labialis is more or less frequent, as are also pemphigus and ecthyma. Multiple and peripheral neuritis occurs, and often ocular phenomena, which may take the form of retinitis, suppurative cyclitis, and pus in the anterior chamber. It is a curious fact that often the patient will not only appear, but will be, absolutely blind for a few days, this condition disappearing with the progression of the convalescence, and under proper treatment. Unfortunately the treatment is not always successful, and the blindness is permanent.

We are all familiar with the pitiful picture of the sequelæ of acute leptomeningitis: blindness, deafness, dumbness, paralyses of different sorts, contractures of muscles, and physical and mental impairment.

Diagnosis.—The diagnosis of acute leptomeningitis should not be a difficult one to make, and there should be no great trouble in distinguishing the different forms. The location of the lesion can be determined by a careful observation of the clinical picture. In the cortical type, the manifestations of motor involvement are the more prominent, and in the basilar forms we observe the evidences of involvement of the cranial nerves and special senses. Where the infection includes the greater part of the membranes, and both cortical and basilar areas are affected, we have the manifestations characteristic of either area. When the spinal structures are invaded, we have added to the picture the interference with reflexes, spinal tenderness, and the evidences of involvement of the spinal nerve roots.

In the epidemic forms, the invasion is more rapid and the infection more profound than in the endemic forms. I am convinced that *this difference is due to a greater virulency in the infection in the epidemic forms*. Epidemic leptomeningitis is commonly ushered in with a severe chill or chills, the temperature rises almost at once, and the invasion is complete in a marvelously short time. Convulsions occur early, as do also stupor and coma. The progression of the train of symptoms is astonishingly rapid. In this, as in so many contagious and infectious epidemic diseases, there is the time-worn saving clause, "one or more cases in the neighborhood;" but each doctor should be able to make his own diagnosis. *The diagnosis of the first case of epidemic leptomeningitis in a community, and its immediate isolation, are matters of considerable importance to that community.*

Kernig's sign is of some value in making the diagnosis of acute leptomeningitis, but not constant, sometimes reversed, and not applicable to young babies, for in them hypertony is a normal condition. Lay the child on its back, and flex the thigh on the abdomen; it can extend the leg. Sit the child up in the bed, and then

flex the thigh on the abdomen; it cannot extend the leg, though it could do so when lying down.

G. W. Squires says that forcible extension of the head on the spinal column will produce dilatation of the pupils in basilar meningitis, and that as the head is flexed the pupils contract, so that when the chin is brought to the sternum, the pupils are closed. This sign is not constant, and I am in doubt as to its reliability, for I have found the same phenomena in perfectly healthy children, in whom there had never been meningeal disease.

From typhoid or the other specific fevers, the diagnosis is made by the history, the presence of eruption in the case of eruptive fevers, and, in the case of leptomeningitis, by the presence of photophobia, lung-involvement, retraction of the cervical muscles, tenderness at the back of the neck and over the spine, cranial nerve involvement, rigidity of muscles, etc. There is sometimes difficulty in diagnosing between the tubercular form of acute leptomeningitis and typhoid fever, but the Widal reaction will usually establish the existence of a typhoid infection, and if this be negative in its results, and tubercular meningitis still be suspected, a lumbar puncture is justified, in order to demonstrate the presence or absence of tubercle bacilli in the spinal fluid. Quincke's method and apparatus should be used.

Skeer claims that during the first few days of tubercular meningitis there is a deposit of tubercles around the iris about a millimeter from the pupillary margin, these disappearing after a few days, being replaced by a yellowish-brown circle which becomes attenuated as the pupil dilates.

Prognosis.—Suffice it to say that the prognosis of all forms of acute leptomeningitis is bad. Even if the progress of the disease be stopped, and the acute condition recovered from, the sequelæ which so often remain, are more pitiful than would be death from the disease itself. However, cases which appear to be absolutely hopeless, and after which it appears there can be no possible escape from sequelæ, do sometimes make a complete recovery. I have treated several cases in which most of the cranial nerves were involved, where the recovery was complete in every way. Probably the best prognosis is to be made in cases of the epidemic form which occur late in the epidemic, when its virulency is decreasing, and the worst is to be made in all cases of tubercular infection. The prognosis is worst in those cases ushered in with coma, severe convulsions, or stupor, or in which the temperature is very high early in the invasion. One should remember that in children the primary shock to the brain is greater than in the adult, that the brain more easily accustoms itself to pressure, and that an apparent remission of severity of symptoms in a child may be followed by increase and death. The prognosis should be always guarded, and the family and friends made to understand that even in the

event of recovery, the sequelæ are likely to be appalling. Make a guarded prognosis, *but never give up until the patient is entirely dead.*

Treatment.—It has been said that the treatment of all cases of meningitis is hopeless, and to save their lives a crime. In the light of some of the results which I have been fortunate enough to obtain, I most decidedly take exception to this dictum. I am willing to admit that in the tubercular form of the disease, our efforts have not been crowned with any very gratifying degree of success, though a limited number of cases have been reported in which the cure was effected and recovery apparently complete.

It may be that by keeping eternally at it, we may finally master this form of the disease, though I think it will be only when we have developed a satisfactory serum for the treatment and cure of tuberculosis.

So far the treatment of acute leptomeningitis has been, of necessity, purely symptomatic. We have given opium and its derivatives, the bromides, chloral, hyoscine, together with other narcotics, to control the nervous manifestations, and we must continue to do this, just as we must continue to combat the other conditions as they arise, and in the manner which seems to us best suited to the individual case. There is no disease in which the personal equation of the patient bears so great a part as in this most insidious one. As a general working plan, I have found the following a very successful line of procedure.

Begin with an active calomel purge, combining with it a good, honest dose of Dover's powder. Reduce the temperature with ice-water sponges and by the application of ice-bags direct to the cervical region, posteriorly. Then inject from 1500 to 5000 units of diphtheria antitoxic serum, varying the dose according to the age of the patient and the degree of infection. After six hours repeat this dose, and continue to repeat every six hours until there be a remission of the symptoms, or the condition of the patient's heart contra-indicates the further use of the serum. When the temperature goes above 103° F., or the other symptoms are alarming, I give a hot bath, beginning at about 99° F., and increasing the temperature of the bath to from 104° F. to 106° F. The patient is then wrapped in woolen blankets, without drying, and ice-bags applied to the neck, or to neck and spine. If the ice be not applied, the temperature will continue to rise, though the general condition of the patient will be improved. I would say that I have found, in collapse, that the administration of a hot bath without the application of ice has a decidedly beneficial effect. Ergot in full doses should be administered, until its full physiologic effect on the circulation is obtained, and the nervous system should be not only depressed, *but absolutely held down*, by the use of morphine, codeine, or hyoscine. These cases will take enormous doses of the narcotics; I have in several instances been obliged to give small children half a grain of codeine sulphate,

hypodermically, in order to get any satisfactory quieting effect. The cardiac action should be maintained by the administration of circulatory stimulants, *the selection of which must be governed by the indications at the time the medicine is given.* As there is no diseased condition in which the indications for the use or withdrawal of a given remedy so quickly and so radically change as in acute leptomeningitis, the utmost caution is needed in the administration of medicines. The temperature must be carefully watched, as it is irregular, and sometimes drops rapidly under ice, and there is danger of driving it subnormal and bringing on collapse. The bowels must be kept open by the use of cathartics, and all effort must be made to maintain intestinal peristalsis. The bowel may be helped out by the use of high enemata. Urine elimination must be carefully watched, and suppression combatted with digitalis in full doses and the application of heat to the back, in the region of the kidneys. As difficulty of swallowing is an early and fairly constant condition in these cases, and complete paralysis of the throat is by no means uncommon, it will be found necessary in a great many cases to rely on the hypodermic syringe for the administration of drugs. Where this is done, the injections should be made deeply into the subcutaneous structures. Antipyretics may be given with the idea of controlling temperature, but the heart action is usually so uncertain, at best, that antipyretic drugs are dangerous.

I have had good results in some cases in the use of mercuric chloride, in doses of from $\frac{1}{4}$ to $\frac{1}{16}$ grain, hypodermatically, at intervals of from one to four hours. After getting the full effect, I continue with one dose in twenty-four hours for a week or ten days.

In collapse, give a hot bath, 103° F. to 107° F., and push active stimulation. Where respiration has ceased, pump oxygen into the lungs by passing the tube well back in the throat, and expanding and contracting the lungs by Sylvester's or any other satisfactory method. Nourishment is maintained by soups, strong broths, milk, whiskey, brandy and water. As the patient begins to recover, the dietary is increased, and tonics are given, together with iodine in some form, and mercuric chloride. The kidneys must be carefully watched during the convalescence, and they should be helped out by dietary measures and by the use of cathartics.

No hard-and-fast line of treatment can be laid down, to be followed in all cases of acute leptomeningitis, for each case must be fought out on its own ground. Nor can these cases be fought and won from the office, or by making one, two, or even three calls daily. The physician who would successfully combat this disease must sacrifice his other work, or at least a part of it, and *give his whole attention to his task*, for his foe is worthy of his most strenuous steel. Conditions are continually changing, and one cannot say to the nurse, "Do so-and-so every so often." I believe there are few conditions in the practice of medicine which will so thor-

oughly test the capabilities of a doctor as will a good, hard case of acute leptomeningitis.

Throughout the course of the disease there is usually marked oedema of the subcutaneous tissues, with hardening of the skin. The child's face may lose all resemblance to a face; for instance, its neck be full from jaw to chest, its arms and legs so filled up as to resemble rolls of cotton. This condition changes constantly, increasing and decreasing with the gravity of the other symptoms. The disease ends, in the event of recovery, by crisis; and at the crisis this condition of oedema disappears with marvelous rapidity. No treatment of this condition is necessary, as the hot baths relieve it to a certain extent, as do they also the condition of rigidity which exists at the same time.

It is best that these patients be kept in a darkened room during the course of the disease and for the early part of the convalescence, and there should be the minimum of noise in the room or about the house.

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THE ROLE OF THE INTERNAL SECRETIONS IN SENILITY, THE PRE-SENILE STATES, AND DIABETES.

DR. ARNOLD LORAND, of Carlsbad, who has made a life study of the disorders of metabolism, gave, on November 14, 1906, a most interesting lecture before the Philadelphia County Medical Society on "Senility."

He presented his own views on the processes involved in that class of derangements exhibiting degenerative processes seen in premature senile changes, and the analogues, myxoedema, cretinism, etc. Pure senility exhibits similar changes, but more slowly; it is less amenable to corrective measures, yet capable of amelioration on similar lines. The great interest in the subject lies in the fact that, since we are now able to understand the physiology of the ductless glands and their bearing on the regulatory life processes we are in a position to elucidate, as never before, the disorders of metabolism.

Certain facts taught by centuries of observation are well appreciated, but hitherto we have been able to interpret their significance only partially and could deal with them solely by empirical methods, chiefly hygienic, and therefore, inadequately. Within five or, at most, ten years, the trend of medical thought has been definitely toward appreciation of the potentiality of the great regulative mechanisms, the ductless glands. Here lies the key to many hitherto obscure situations. Isolated observers have recorded many important facts bearing on this subject, though the full significance of these is only now taking shape. Most of this work was done in Europe. Our country has contributed an important step to this

advance, Sajous having been the first (January, 1903) to point out *how* the activity of the oxidation processes is increased in the organism when either the thyroid or the adrenals, from any cause, become overactive, or when extracts of these organs are administered.

In our text-books, in current literature, there are constantly appearing remarks showing uncertainty as to the nature of controlling forces involved in the circulation, the oxidation processes, tissue-respiration, in short, functionation. Various conjectures are hazarded, by no means consistent or uniform with well-known facts. Sajous's researches have made it plain that the whole may be reduced to equations based upon variations in activities of those organs forming the adrenal system. This consists of the thyroid gland, the anterior pituitary body, and the adrenals, which are functionally interdependent, forming a system through which cardiac action, respiration, and general cellular oxidation are maintained.

An admirable demonstration of the truth of these tenets is embodied in Dr. Lorand's lecture on the causation of senility and its treatment by hygienic and therapeutic measures.

Old age is caused by degenerations in the ductless glands (thyroid, ovaries, adrenals, pituitary body, kidneys, etc.), which, in his opinion, also govern the processes of oxidation and the nutrition of the tissues (Lorand, C. r. Société de biologie of Paris, December 4, 1904). There exists in old age a condition of chronic autointoxication, due to degeneration of the ductless glands, whose powerful antitoxic properties have been demonstrated by the investigations of experimental pathology. It has been shown by Pineles, Lorand, and others that pathologic alterations in one of the ductless glands can induce changes in the others, and thus the extirpation of the thyroid, or its degeneration, is followed by interstitial hepatitis and nephritis. In consequence of the insufficiency of these two ductless glands a quantity of poisonous products is retained in the organism and a condition of chronic autointoxication is aggravated—a fact repeatedly emphasized in the past, as our readers know, by Sajous.

The degeneration of the thyroid is also constantly followed, according to Lorand, by alterations in the activity of the intestines (atony of the intestine, with chronic constipation, and of the skin, deficiency of perspiration in consequence of the atrophy of the sudorific glands), and thus the elimination of toxic waste products by these two important excretory organs is seriously impeded.

The treatment of senility, according to Lorand, is to limit the action of those agencies which are deleterious to the ductless glands (infectious diseases, over-nutrition), especially the use of large quantities of meats, sexual excesses, frequent pregnancies, prolonged lactation, excessive indulgence in emotions, alcohol, and the like. A mixed diet, with much milk, little meat, cereals, stewed and fresh

fruits and vegetables, is advocated. Aiding elimination of the toxic products by stimulating the action of the intestines, skin, and kidneys is an important feature of treatment. Special care should be taken to avoid substances which might irritate the kidneys and cause desquamation of the epithelium, with casts and albuminuria (such as condiments, strong sauces, black tea in large quantities, alcohol, too many drugs, etc.). Organotherapy, based on a knowledge of the physiology of the ductless glands, by small doses of the fresh thyroid, ovarian and adrenal glands, kidney extracts, is also recommended by Dr. Lorand.

At the request of the writer of the present article, to state whether his views had been sustained in Europe, Dr. Lorand wrote as follows: "My paper 'Sur les causes de la Sénilité (Bull. de la Soc. roy. des. sc. med. nat. Bruxelles, April 3, 1905), was commented on flatteringly by Dr. Buttersack, of Berlin, former assistant of Professor Leyden (Fortschritte der Medicin, July 20, 1906). Dr. Harry Campbell, of London, (Lancet, June, 1905) writing on 'Senility,' arrived independently, without knowledge of my previous findings, to the same conclusions. My paper on senility was presented by Dr. Gley, professor of physiology and one of the best-known authorities on the functions of the thyroid, to the Paris Biological Society. My theory on the thyroid origin of diabetes has been confirmed by Prof. Freidrich Muller, of Munich, at the last German Congress of Internal Medicine this year in Munich. At the last French Congress of Internal Medicine (in Liege, 1905) Prof. Bouchard, the eminent author on nutrition, publicly endorsed my teachings on the importance of the thyroid in the pathogeny of diabetes, obesity, and gall-stone disease, and based his clinical lessons last year on my views on this subject (Bulletin médical, September, 1905). I addressed on similar subjects the Pathological Society of London, introduced by Dr. Pavy, February 21, 1905. I wrote two books on diabetes, published by Maloine, Paris, 1903, which also appeared the same year in German (translation published by August Hirschwald, Berlin). The importance of the action of the thyroid in the processes of metabolism and senility, shown by myself to be essentially a disorder of metabolism, was endorsed by Prof. von Noorden, as shown by the fact that Prof. Magnus Levy is publishing, in his elaborate new handbook on the pathology of metabolism, a special chapter on the ductless glands. Dr. J. F. Richter, of Berlin, assistant to Prof. Senator, also reached the conclusion, in his handbook on metabolism, published in 1906, that it was practicable to treat many diseases of metabolism by organic extracts. I was among the first to show that diseases of metabolism stand in close relation to alterations of the ductless glands, in my book on origin of diabetes after alteration of the ductless glands. In criticizing my work, Docent Richter wrote (in the Deutsche Medicinische Wochenschrift, September, 1905), 'It is of not inconsiderable value for the future of the investigations on the nature of dia-

betes,' and that I had first drawn his attention to the importance of the ductless glands as factors in the pathology of this disease, which has been unduly neglected until now."

Sajous had already shown, in the first volume of "Internal Secretions" (published January, 1903), that the adrenal system, composed of the thyroid, pituitary body, and adrenals, was the source of diabetes through overactivity of the adrenals. Thus the views of Lorand harmonize beautifully with Sajous's conception. Especially does the strength of the latter author's conception become evident in view of the fact that Blum, Croftan, Herter, and others have shown that adrenal extract and adrenalin injections give rise to glycosuria, and that in animals in which this phenomenon is present, it can be increased by compressing the adrenals so as to increase the supply of secretion.

It is interesting to note the frank recognition of Lorand's observations by so many eminent investigators in Europe, including such authorities as Bouchard in Paris and Pavy in London, men old in years, yet keen to perceive the evidences of important facts, new lines of thought in pathogenesis, and their bearings on clinical problems. The contrast with American investigators is self-evident, and we need no longer wonder why, on the continent of Europe, American medicine stands on a par with that of the most insignificant nations. It will never be otherwise until servility to foreign ideas will at least be mitigated by due recognition of the progressive work done in this country.

Sajous, anticipating much that has been "discovered" in Europe during the last four years, was first to urge (see also *Monthly Cyclopædia*, for January, 1903) that the thyroid gland supplies the blood with a secretion which increases the adrenal secreting functions and thereby augments the activity of oxidation processes. All of Dr. Lorand's valuable observations sustain him, since, by emphasizing the great rôle of the thyroid in various morbid states, they simultaneously emphasize the far-reaching influences of the adrenal system in disease and therapeutics.

J. MADISON TAYLOR.

Cyclopædia of Current literature.

ANGINA PECTORIS: ITS MECHANISM AND TREATMENT.

The writer states that the pain of angina depends upon vascular distention in the mediastinum, which is the result of a more or less localized vaso-

dilatation and of a more or less generalized peripheral vasoconstriction. It would seem that the angina is not due to the organic lesions any more than is asthma due to emphysema, or migraine to atheroma of cranial vessels. The

connection between the organic lesions and angina should, then, be ascribed to the chronic peripheral vasoconstriction, which constitutes the earliest stages of many forms of chronic organic diseases of the heart and vessels.

The treatment of the paroxysm consists of inhalation of amyl nitrite, as the most prompt and reliable means of relief in most cases. Where this fails, morphine, hypodermically, or chloroform inhalation will usually succeed. But in the absence of these drugs the extensive application of heat to the surface, combined with hot drinks will generally afford effectual relief.

Preventive treatment resolves itself into the prevention of exaggerated peripheral vasoconstriction, continuous or recurrent. Purin-free diet, cutting down of the intake of carbohydrates, especially the saccharine carbohydrates, and the fats is advocated. The author advocates intranasal procedure as used in asthma, and also the use of potassium iodide in large doses. Francis Hare (*Medical Record*, October 20, 1906).

ANGINA PECTORIS, SPASMODIC VASOMOTOR CONTRACTION WITH TRUE.

The writer believes that far too little attention has been paid to the underlying or accompanying angina pectoris in cases of peripheral vasomotor cramps. Four cases are described in detail in which the assumption of underlying angina pectoris was confirmed by the course of the cases or autopsy findings. In a fifth case the trouble was of exclusively nervous origin, a purely nervous vasomotor angina pectoris, as Nothnagel described it. The author's four cases show that the entire clinical picture of the latter can develop on the basis of, or as an accompaniment to, true angina pectoris. One patient had

chronic cardiac insufficiency, true angina pectoris, and angioneurotic vascular cramps in arms, feet, and face, with incipient nephritis. The second had chronic insufficiency of the heart, sclerosis of the coronaries, and peripheral vasomotor neurotic disturbances in hands, brain, and face, with arthritis. In the third case there was aneurism of the ascending aorta plus angina pectoris, with attacks of amaurosis on the right side. H. Curschmann (*Deutsche medizinische Wochenschrift*, Bd. xxxii., No. 38; *Journal of the American Medical Association*, November 19, 1906).

APPENDICITIS, CHRONIC.

The author differs from those who believe that a true chronic appendicitis does not exist, and that in all cases an acute inflammation has preceded any long-standing process. He is of the opinion that a true chronic interstitial inflammation of the appendix, originating in the lumen of the organ, occurs as a result of bacteria or their toxins. This chronic interstitial inflammation begins with swelling of the follicles, together with a proliferation of the young connective tissue cells in the inner layer of the submucosa. As a result of the increased density of the submucosa, and the consequent cicatricial contraction of the connective tissue, this layer is separated from the muscle, and the resulting space is filled with fat. At the same time compression and atrophy of the mucosa is caused. The final stage of the process is a partial or total obliteration of the appendix, always beginning at its tip. If concentrations are present in the lumen of the tube, its walls cannot collapse, but the submucosa becomes thickened, the mucosa atrophies, and the glands are partly destroyed. A very marked increase of the elastic ele-

ments compensates for the degeneration of the contractile structures. Oberndorfer (*Deutsche medizinische Wochenschrift*, October 11, 1906; *Medical Record*, November 3, 1906).

ARTIFICIAL FEEDING OF INFANTS.

The dangers of starch-food for babies are described by the writer, and he points out that an error in feeding of this kind is extremely common. As a rule, starch-foods are given to infants on account of acute intestinal disorders. The starch is supposed to constipate, and the mothers therefore leave off milk and substitute one of the foods, or a home-made infusion of barley or rice, or even starch-water. When the stools improve in consistence under this diet, the mother is unaware that the want of milk will harm the infant, and so continues the starch-feeding. At times the mother attempts to return to a diluted milk diet a few days after the starch diet has begun, and, finding that the stools are becoming frequent and watery again, she gives up the milk altogether.

The laity is always pleased if a diet can be found which will allow the infant to pass through the hot summer months without being attacked by summer diarrhoea. The doctor may order a starch diet for an acute intestinal attack and forget to warn the mother that this may only be continued for a short time, and that the proper diet without doubt is milk. The inclination of the mothers is further supported by the reckless advertisements of babies' foods, which may be quite useful for special emergencies, but do endless harm when used without knowledge.

The signs of the damage done by starch-diet often only appear after a fairly long period of apparently good

health; but when the symptoms do break out, they are very stormy. Dryness of the skin, muscular rigidity, difficulty in carrying out free movements, weakness of the heart, anorexia, among other signs, tend to give these cases a bad prognosis. Death not infrequently follows after signs of severe auto-poisoning or in response to an infection. It must be remembered that children fed in this improper way often have no power of resistance—that is, their immunity is much lowered. The practitioner should always be on the lookout that he is not deceived by a child looking well, with a rosy color and no intestinal disturbances. Such children may be advancing in the disease caused by starch-feeding. The condition of the skin and muscular system will, however, put him on the right track.

In regard to treatment, the author states that repair goes on very slowly indeed, and only too often, while the child is really showing some signs of getting better, an acute infection cuts everything short. A. Keller (*Berliner klinische Wochenschrift*, September 3, 1906; *British Medical Journal*, November 10, 1906).

ATROPINE METHYLBROMATE IN DISEASES OF THE NERVOUS SYSTEM.

Atropine methylbromate has been used by the writer with satisfaction to relieve the lancinating pains of *tabes dorsalis*, the tearing pain of *meningomyelitis*, *cephalgia leutica*, *anæmic headache*, *hæmicrania*, nervous headache, hysterical nausea, nervous hyperidrosis, rheumatic headache, trigeminal neuralgia, and sciatica. No benefit was obtained from its use in epilepsy, paralysis agitans, or convulsive tic. His conclusions are that atropine methylbromate is a valuable anodyne in the

conditions mentioned, and is of good service in nervous hypersecretions. In neuralgia and neuralgic pains it is not only an anodyne, but curative means. In epilepsy its effect is very slight, in conditions of motor irritation its effect is *nil*. Habituation and unpleasant or toxic associated or after-effects were not noticed. From 1 to 4 milligrams suffices for a single dose, and may be given in powder or in solution. Its effect can be increased by combination with antineuralgic or antirheumatic remedies. Hudovernig (Berliner klinische Wochenschrift, October 15, 1906; New York Medical Journal, November 17, 1906).

BACTERIAL VACCINES.

The authors report a series of cases of tuberculous disease, bacillus coli infections, and staphylococcic affections, treated by the injection of bacterial vaccines, such treatment being controlled by estimation of the opsonic index. Previous to beginning treatment in each case they ascertained the exact causal germ of the disease by microscopical and cultural investigations, and estimated the opsonic index of the patient for that particular germ. The greatest success was obtained by the cultural separation of the exact strain of organism peculiar to the patient, and by the preparation and use of a vaccine prepared from that organism. This plan is at present inapplicable to tuberculous affections, owing to the difficulties of obtaining a pure culture of the special strain of tubercle bacillus. Another difficulty is that there is often more than one causal germ present—*e.g.*, the tubercle bacillus is often associated with staphylococci, pneumococci, etc.

It is hard to say how often the injection of the vaccine should be repeated,

because acute affections differ so greatly from chronic ones. The only safe guide seems to be to inject as soon as the opsonic index, once raised, shows signs of falling. Each case is a law unto itself, and should be treated on its merits; beginning with a small dose of the vaccine, watching the opsonic index, and increasing or diminishing the dose as occasion demands. In the more acute cases the negative phase seems to be either entirely absent or of very short duration. No ill effects were noted from any injection, no abscesses, no rigors, and no rash. On the whole, the writers are pleased with their results. Acute cases are more difficult to cure, because there may not be time to raise the opsonic power to such a degree as to influence the course of the disease. E. Turton and A. Parkin (Lancet, October 27, 1906).

BERIBERI.

The writer concludes that beriberi, kakke, or neuritis multiplex is an acute, subacute, or chronic disease, generally only prevalent in certain well-defined territories. It is clinically characterized by disturbances of circulation, of motion, and of sensation. Its most pronounced anatomic lesions are, first, hypertrophy and degeneration of the myocardium and degeneration of the peripheral nerves and skeletal muscles; and second, localized or more or less general cedema, parenchymatous degeneration of the kidneys and liver, and interstitial hepatitis. Beriberi is neither primarily a nutritional disturbance nor a simple intoxication like lead, alcohol, arsenic, or similar intoxications accompanied with a multiple peripheral neuritis, but is an infectious disease. The author states that his animal experiments and blood-examinations appear to indicate very strongly that none of the

claims brought forward for the discovery of a specific microorganism for the disease can be looked on as substantiated. He expresses the belief that beriberi is due to an organism which gains entrance into the human body, either directly or through food, and there produces a toxin which in character and effect is similar to the diphtheria or tetanus toxin, and which by an accumulative action gives rise to well-characterized anatomic and histologic lesions of beriberi. M. Herzog (*Philippine Journal of Science*, September, 1906; *Journal of the American Medical Association*, November 17, 1906).

CANCER, METHYLTHIONINE HYDROCHLORIDE IN.

The writer gives his experience with the use of methylene-blue in the treatment of cancers. The remedy was introduced for this purpose by Moorhof-Mosetig, of Vienna, some years ago, in the treatment of malignant tumors, and, for fourteen or fifteen years, the writer has been using it internally, the injection method having been found too painful for general use. He has invariably treated in this way the inoperable cases that came to him, and has also followed up the operative cases with the treatment. The writer states that he cannot say that he has ever cured a patient, but he has seen these individuals continue comparatively well for years under this treatment. Latterly he has been using it in connection with the light treatment, on the presumption that methylene-blue is one of the fluorescent substances favorably influenced by light, but he states that he can not yet give positive results. He thinks, however, that it has done him good service, and that it is probable that the methylene-

blue and light combination will be more effective than methylene-blue alone.

The drug is given in pills, in small doses, 2 grains a day, and run up gradually to 3, 4, and 6 grains a day. The 2 or 4 grains should be made up into pills, with $\frac{3}{4}$ grain of extract of belladonna daily, and the writer frequently combines it with arsenous acid in doses of from $\frac{1}{40}$ to $\frac{1}{20}$ of a grain three times a day. The patient should be informed at the beginning that the urine will be blue and will stain the linen indelibly. Aside from this, few will suffer any inconvenience. Not one in twenty will complain of dysuria. The author recommends it as a preventive of relapses in every case of breast or uterine cancer that has been removed, and states that he thinks he has kept people alive for two, three, six, and eight years longer than they would otherwise have lived. Abraham Jacobi (*Journal of the American Medical Association*, November 10, 1906).

CARCINOMA.

The tumor in the earliest stage of carcinoma is encapsulated by a growth of connective tissue, so that it is completely shut off from the normal tissues. This hyperplasia of the connective tissue is due, the writer believes, to the action of the products of metabolism of the cancer-cells, as is also the round-cell infiltration which is often seen. Later on, this connective-tissue growth becomes less and less marked, and the cancer-cells invade the surrounding structures with greater freedom. This is apparently because the tissues become accustomed to the toxic tumor-products, and cease to react with the formation of new connective tissue, a process which may be regarded as the opposite of im-

munization. Sticker has made the interesting observation that an animal bearing an implantation tumor is immune against further transplantation so long as the tumor is there, but that this immunity soon disappears after the excision of the tumor, and new transplantation then becomes successful. This has led the author to suppose that the tissues after the removal of the tumor soon cease to be accustomed to its products of metabolism, and that after the operation the injection of such products might hinder the recurrence of the tumor. These products would have to be derived from the individual tumor, because it is probable that they vary in nature with the different varieties of cancer. Ribbert (*Deutsche medizinische Wochenschrift*, October 18, 1906; *Boston Medical and Surgical Journal*, November 15, 1906).

CHOREA, PATHOLOGY OF.

Three cases are added by the authors to the recorded observations of the presence of diplococcus in the pia mater of patients who have died from brain trouble while suffering from chorea. The organism has been demonstrated in the brains in these cases in the perivascular spaces and connective tissue. They have also studied the changes affecting the connective and vascular tissues and those which occur in the nervous tissues in chorea, and, finally, they have demonstrated that in a case of chorea occurring during the first pregnancy, lesions were present similar to those found in the rheumatism cases.

The authors believe that chorea is caused by toxins, which penetrate the brain by direct bacterial invasion. They do not consider themselves in a position to state what portion of the nervous system yields the predominant symp-

toms of chorea. It has been assumed to be the higher motor centers in the cerebral cortex. As regards chorea and rheumatism, they state that the cause of the former is to be found in the action of bacterial poisons on the brain. Furthermore, the available evidence points to the occurrence of a local infection to which the widespread changes in the nervous system are due. Finally, they believe that this infection is of a rheumatic nature. As to the relation between chorea and pregnancy, two questions arise: first, whether this chorea is a rheumatic chorea intensified by the condition, and secondly, a far wider one concerned with the influence of pregnancy and the puerperal state upon the rheumatic infection. Choreia in pregnancy is, in the opinion of the authors, probably a rheumatic chorea. F. J. Poynton and G. M. Holmes (*Lancet*, October 13, 1906).

CLUB-FOOT, CONGENITAL: TREATMENT.

The prognosis in ordinary, non-paralytic club-foot is good. The ideal time for active treatment of the surgeon is early in the second year. The deformity of the foot *per se* should be fully corrected; afterward, the relation of the foot to the leg. Cutting, other than a subcutaneous section of the tendons, ligaments, and fascia, is seldom or never required. Manipulative replacement and retention by fixed dressings is sufficient. After treatment, a retentive high brace and a properly-constructed leather day-boot should be worn.

The open incision and removal of bone are unnecessary and harmful. The radical operations interfere with the natural growth and development of the foot. Restrictive methods, either by dressings or apparatus, should be as lit-

tle employed as possible. Persistent manipulation improves function and development. Operative treatment must be thorough. No part of the correction of the deformity should be left in the hope that mechanical means will complete the work.

In persons under fifteen years of age congenital club-foot may be so perfectly cured as to give practically perfection of form and function. In adults perfection of form may be secured. Function is somewhat impaired, owing to the fixity of habits hitherto acquired. The time required for active surgical treatment need not be more than three months. The writer considers that age is no bar to successful treatment. Eminently satisfactory results may be obtained in adult life. Even in the case of adults the more heroic methods of operation in many cases are not called for. B. E. McKenzie (*British Medical Journal*, November 10, 1906).

DILATATION OF THE CERVIX, ARTIFICIAL.

The writer describes the mechanism of normal cervical dilatation and its differences in primiparæ and multiparæ, its condition in early and late abortions and in premature and full-term delivery. The cervix acts as a sort of sphincter in opposition to the other uterine muscles, and the barrier it produces can be overcome in three ways: 1, by stimulating the uterine contractions by the introduction of foreign bodies, etc.; 2, by overcoming the sphincter action by manual or instrumental means; and 3, by incision. Previous to the introduction of the Bossi dilator the author incised cervices, but since then has done this in very few cases. His experience has taught him that after the thirtieth week mechanical methods will suffice in

most cases, and bimanual stretching of the cervix has given the best results. It is a closer imitation of the natural process than any other. It allows greater force. There is less danger of rupture of the membranes or of laceration. It does not interfere with the original presentation. It is less fatiguing. In placenta prævia there is less separation of the placenta, and last and most important, in the writer's opinion, it can be performed while a part of the foetus already occupies the vagina. When much resistance is encountered from the non-disappearance of the supravaginal portion of the cervix and time does not permit the use of hydrostatic bags, the author finds the Bossi dilator invaluable. Ten or fifteen minutes' use of this in such cases sets up uterine action, softens the cervical rings, and permits a subsequent safe manual dilatation. The author never uses it to complete the dilatation, as he considers it unsafe for that purpose. For slow cervical dilatation his main reliance is on the hydrostatic bag of the Champetier de Ribes type. J. Clifton Edgar (*Journal of the American Medical Association*, November 10, 1906).

DILATATION OF THE STOMACH, ACUTE.

The writer states that it is of the utmost importance that this condition should be recognized early, as it is generally easily remedied by appropriate treatment, while liable to prove fatal without it. The correct diagnosis was made in only 13 out of 60 cases on record, he says, and then almost always by physicians who had lost patients with similar symptoms and who had been enlightened as to their cause by the autopsy. As a rule, the first symptom is sudden, violent vomiting, accompanied by a more or less intense pain in vari-

ous parts of the distended abdomen. The pulse is small and rapid, but the temperature is normal. The absence of high temperature allows peritonitis to be excluded, as this is usually accompanied by fever. In other respects the symptoms suggest peritonitis, and the peritoneum is liable to become inflamed secondarily. Another differentiating point is an encapsulated collection of fluid in the left side of the abdomen.

The stomach-tube affords the most reliable information, and evacuation of the contents of the stomach through it is the most important measure in treatment. The pelvis should be raised while the stomach is being emptied, and the organ should be rinsed out systematically several times a day at first. It is important to be sure that the stomach sound reaches down into the fluid. In some of the cases that proved fatal after the stomach had been rinsed several times, this result was probably due to the fact that the sound had failed to evacuate all the fluid. No food should be taken by the mouth until the stomach has entirely recuperated.

The prognosis is grave unless proper treatment is instituted at once. Out of the 64 cases known, 47 proved fatal. In one of the author's 4 cases the acute dilatation followed overloading the stomach with fresh fruit; the patient was a young man of 16. In 2 others there was a tendency to kyphoscoliosis since youth, which he thinks had induced a predisposition to ptosis or dilatation of the stomach on slight provocation. In 29 of the total cases on record the acute dilatation of the stomach followed chloroform anæsthesia, and in all of these cases the operation had not involved the abdomen, but was at points remote from it. It is evident that the chloroform must have entered

the stomach and impaired the muscular and nervous elements so seriously that acute dilatation was the result. It may occur in a stomach apparently entirely healthy, and in robust persons, although in most cases there was some predisposing factor, such as debility after illness, a stomach-affection or downward displacement. Neck (*Münchener medizinische Wochenschrift*, Bd. liii., Nu. 32; *Journal of the American Medical Association*, November 10, 1906).

DYSPEPSIA DUE TO GALL-STONES.

The following explanation is given by the writer for the frequency of dyspeptic symptoms in cholelithiasis: The dyspepsia may be due to chronic gastritis which has preceded and favored the formation of gall-stones. Adhesions are formed as the result of a local peritonitis around the gall-bladder, and cause adhesion dyspepsia. The symptoms may be due to inflammation of the passages with partial obstruction.

Differential diagnosis from the following conditions: (a) Cancer may have septic phenomena and sallowness. A test-meal may determine the diagnosis. (b) Ulcer may not be determinable if hæmatemesis is wanting. The pain is constant and may or may not be relieved by food. (c) Chronic gastritis has loss of appetite, with flatulence and pain on the left side. The symptoms may be relieved by rest, quiet, and medicines. (d) Hyperchlorhydria recurs irregularly, causes pain, which is relieved by pressure and vomiting, and by albuminous food and alkalies. (e) Duodenal ulcer has pain on the right side, hæmatemesis and hyperchlorhydria. (f) Gumma has constant pain due to peritonitis, but may have the characteristics of adhesion dyspepsia. (g) Gastric crises simulate

biliary colic, but are of longer duration, and are very suggestive of tabes. H. B. Day (Practitioner, October, 1906).

ECZEMA, TREATMENT OF.

The writer considers that combined constitutional and local measures give the best results. It should be remembered that the disease is a dermatitis with exposure of the rete mucosa. The three indications are to reduce the inflammation, soothe and protect the skin, especially the mucous layer, and to adopt measures to bring about the normal keratinization of the epidermis. It harms an acute eczema to wash it with plain water, because it removes the fibrinous exudate present. Consequently, the skin, on drying, becomes less pliant and inclines to fissures. If, however, a normal saline is applied continuously, it will be found soothing. In making the application the writer advised the use of cheese-cloth in 8- to 10-ply, moistened with the solution and applied to the patches. To prevent drying, the moist dressing is covered with oiled silk. The dressing should be changed twice a day. In cases in which the eczema is impetiginous, boric acid may be added in sufficient quantity to the normal saline solution to make about 1 in 60. At each change of dressing it is well to wash the affected parts with the solution. As soon as the skin, by its color, smoothness, the absence of crusts, etc., shows diminished inflammation and improved keratinization, the dressing should be discontinued and a soothing ointment applied, such as Lassar's paste. Subsequently a mildly stimulating ointment may be required. G. Chambers (British Medical Journal, October 6, 1906).

ENTEROCOLITIS, DIETETIC TREATMENT OF.

The object to be aimed at in the dietetic treatment of enterocolitis is such an arrangement of the food as will starve the bacteria without starving the baby. The food should be withdrawn for as long a time as the infant can bear starvation, plenty of water being given in the meantime. In choosing a substitute for milk, the attempt should be made to select, if possible, a food on which the bacteria which cause the disease grow with difficulty. The author uses whey and pasteurized buttermilk. All food given should be very much diluted. It is better to begin with whey-mixture, peptonized mixtures, or barley-mixtures, than with straight modifications. The mixtures must never be highly alcoholized, as this tends to throw the work of digestion off the stomach on to the intestine. J. L. Morse (British Medical Journal, October 13, 1906).

FRACTURES, TREATMENT OF.

Attention is called by the writer to the important modifications which have been introduced into the treatment of fractures. These new developments consist in the early employment of massage and movement, and a less absolute adherence to the traditional methods of immobilization; the application of operative measures to ordinary cases of simple fracture. The use of the x-rays has also introduced new factors. These modifications are due to the teachings of Lucas-Championnière. The conception of prolonged immobilization as the dominant principle in the treatment of fracture was arrived at by a too exclusive attention to the injury to the bone, and a neglect of the associated injuries of the soft parts. Absolute immobility

is not essential to bony repair. The extremities of a broken rib unite rapidly despite the incessant respiratory movements, this taking place even where a portion of the rib has been removed by resection. On the other hand, non-union is frequently observed in fractures of the cranial vault, where the bones are immovable. Immobilization in some form is necessary to secure union of marked displacement of the fragments, where the displacement tends to be reproduced after reduction. It is the displacement, however, and not the mobility, that interferes with union. The fear of displacement has been exaggerated; the fleshy bellies and the tendons of the muscles form a sleeve-like splint which tends to keep the bone in position. The strong fascia and connective tissue of the limb, and the insertions of the muscles, fascia, and ligaments into the bones, all play a similar part.

Immobilization entails certain hurtful consequences; wasting of the muscles, stiffness of the joints, weakness of the limb, and pain on attempting movement are usually to be observed when the splints are taken off. These disabilities are due to the treatment, not to the fracture. Associated with the atrophy of the muscles there is also a concurrent and consequent atrophy of the bones. Early massage and movement enable us to avoid many of the results of immobilization, and constitute the best treatment for repair of the fracture and restoration of the function. The massage to be applied differs entirely from that employed by professional masseurs. It consists in a smooth, soft, uniform, above all painless, mobile pressure in the direction of the venous current. At first just a touch, the degree of pressure is progressively increased so as to act gradually on the deeper structures.

It should be practiced from the very beginning of treatment, and repeated daily for half an hour at a time. After massage, passive movements, before impossible because so painful, become surprisingly easy. Active and passive movements may be usefully combined.

The first and most striking result of massage is the relief of pain. This is prompt and decided to a degree that is almost incredible. Swelling is also removed, the volume of the limb diminished, the tension relieved, absorption hastened, and normal circulation restored. Adhesions are prevented and the flexibility of the joints maintained. The adhesions do not form because the so-called plastic lymph which gives rise to them is removed by the massage. Voluntary movements are even more useful in preventing muscular atrophy than massage, as it excites the natural functional activity of the different associated parts of the motor apparatus: the muscle, the nerve, the nerve-center. Finally, massage shortens the duration of treatment very considerably. J. E. Bowser (*British Medical Journal*, October 27, 1906).

GLYCOSURIA CAUSED BY SALINE SOLUTION.

As the result of experiments upon this question, the authors conclude that the polyuria and glycosuria which follow the injection of sodium chloride into the venous circulation of the rabbit are, like phloridzin glycosuria, due to an increased permeability of the kidney, the amount of sugar in the blood being diminished. This permeability may be counteracted by the injection of calcium chloride together with the salt; the excretion of sugar is then diminished or arrested, the sugar-content of the blood rises up to or above its normal figure,

and the quantity of urine is lessened. If sodium chloride be injected into the cerebral arterial circulation, glycosuria is produced, with a rise in the sugar in the blood and without polyuria. This phenomenon is referred to a poisoning effect on the brain, causing disturbance of respiratory processes, dyspnœa, etc., such as follow the injection of magnesium sulphate under the skin and the administration of anæsthetics and various drugs. Underhill and Closson (*American Journal of Physiology*, vol. xv., p. 321, 1906).

HÆMOPHILIA, JOINT-AFFECTIONS OF.

The writer divides the symptoms of the joint-affectations of hæmophilia into three stages: (1) In which intra-articular hæmorrhage is the only change; (2) after repeated hæmorrhages have resulted in marked articular and periarticular changes, and have limited joint motion; and (3) when the process has resulted in ankylosis. Although the joint may pass through all of these stages, the early symptoms are the most important, and should be carefully studied.

As a rule, the primary joint-involvement comes at the age of four or five years. It may, however, occur shortly after birth, or be postponed until the patient is well grown. In the primary attack, the joint, with or without the history of a slight injury, suddenly becomes painful, swollen, hyperæmic, and tender. The pain is extreme, while the tenderness is not marked. Evidences of fluid in the joint cavity are present. A rise of temperature is the rule. A chill is not to be expected. The symptoms subside in about a week, only to be repeated by future involvements. Every attack leaves its evidence of having done permanent injury to the joint. The swell-

ing and limitation of motion remain; or deformity and even ankylosis may be present.

The importance of diagnosing these joint-affectations cannot be overestimated. The history of the case is most important. In the primary attack a leucocyte count may aid in excluding infections, but aspiration of the joint, followed by examination of the withdrawn fluid, should be resorted to in doubtful cases. In diagnosing old cases, the history of previous attacks is most important. An infection sufficiently severe to disorganize a joint would not get well in a week. In treating acute cases, the joint should be aspirated by using a small needle. This diminishes the pain and at the same time doubtless assists in preventing the occurrence of permanent joint-changes, while nothing can be done for the old cases. J. G. Sheldon (*Medical Record*, October 27, 1906).

HEADACHE, CHRONIC, ASSOCIATED WITH PELVIC DISEASE.

Chronic headache associated with pelvic disease is accidental, except when it is the most marked symptom of irregular or scanty menstruation. In other pelvic disorders, it is usually an expression of the neurasthenic condition of which the pelvic lesion is merely one factor or accessory predisposing cause. Treatment for the first class of cases consists of general building-up measures and local depletion. Treatment of the second class consists in the rectification of existing local trouble unless especially contraindicated, but the main reliance is to be placed on prolonged and systematic treatment of the neurasthenia. F. H. Davenport (*Journal of the American Medical Association*, November 10, 1906).

HEPATIC ABSCESES.

Six cases of abscess of the liver are recorded by the writer, and he offers certain considerations based on a careful clinical and operative experience of these and other cases. First, with regard to the pain. It is usually absent in the early stages, may vary in character, and be constant or paroxysmal. It is often due to the associated perihepatitis, but in one of the author's cases it appeared to be due to rapidity of the abscess-formation and consequent sudden distension of the hepatic capsule, for no adhesions were found. It is said that the seat of the pain is a rough guide to the site of the abscess—here, again, the author's cases failed to corroborate this statement as a general rule (in one case lumbar pain was found to be due to adhesions between the inferior surface of the liver and the posterior wall of the abdomen). In one case there was a large hepatic abscess in a liver which was freely movable. The detection of inspiratory movement of the liver (whether by percussion of the upper level or palpation of the lower) may lead into difficulties—for example, one case, where at the operation the liver was found solidly adherent, it had appeared to move as estimated by percussion. The fallacy might have been due to forcible pulmonary inspiration causing the lung to descend, or the liver might have rotated somewhat on its transverse axis. Gabbi (*Riforma medica*, April 28, 1906; *British Medical Journal*, November 3, 1906).

INDIGESTION, ACUTE AND CHRONIC.

Various conditions are referred to by the writer, the expression of which is either acute or chronic disturbances of digestion, and underlying which some lesion may be present which calls for

surgical intervention. Or there may be abnormalities of the circulating and nervous symptoms. When the patients complain of pain following the ingestion of food, vomiting, hæmatemesis with or without anorexia, are pale and weak, and have lost much flesh, and experience relief by restricted diet and rest in bed, this must mean in almost every instance organic disease of the stomach. The author does not believe that modern methods of examining the stomach-contents are of much service in making a differential diagnosis between functional and organic disease. Careful physical examination of the abdomen and other regions of the body, with a reliable history of the patient, is of much more value than chemical examinations. The disease which is liable to be overlooked in an attack of so-called acute indigestion is appendicitis. In every such attack careful abdominal examination should be made. In this disease the sequence of symptoms is nearly pathognomic—pain, then vomiting, and lastly localized tenderness. In intestinal obstruction the same caution is called for. Frequently the acute pain of strangulation precedes the vomiting by a number of hours. A careful search of the hernial rings will frequently reveal a strangulated hernia. Diseases of the biliary passage are another prolific cause of acute dyspepsia.

In regard to chronic indigestion, the author believes that if a patient complains of persistent or recurrent indigestion, which is relieved not at all or only temporarily by medical measures, some form of mechanical remedy is justifiable as a solution of the structural disorders; in short, some form of operation. J. B. Deaver (*Boston Medical and Surgical Journal*, October 11, 1906).

**INTRAPERITONEAL HÆMORRHAGE,
STERILE SALT SOLUTION INJECTIONS IN,**

The infusion of physiological salt solution into the peritoneal cavity should be practiced in every case of hæmorrhage not associated with infection, for two general reasons: (1) its effect on shock; (2) its beneficial action on the peritoneum and the conditions in the peritoneal cavity. In some cases the procedure would prove palliative, in others curative.

In cases of intraperitoneal hæmorrhage accompanied by shock so severe that an immediate laparotomy would inevitably prove fatal, the infusion at once of warm sterile normal saline solution into the peritoneal cavity would certainly do no harm, but, on the other hand, would stimulate the peritoneum and at the same time tend to counteract the existing shock and prepare the system for any which might follow a subsequent laparotomy.

In cases in which hæmorrhage might cease and a laparotomy not be needed, the procedure would be of the greatest value. Apart from combating shock, the solution would mingle intimately with the blood, hold the particles in suspension, and hasten absorption of the fluids in the peritoneal cavity without allowing coagula to form, to be the foundation of troublesome and perhaps fatal adhesions and strangulations.

The procedure does not require great skill, but is feasible in the hands of any general practitioner. The following is offered as a suggestion: The solution should be kept sterile in a flask, fitted in a portable case, which could also contain a compartment for a small bottle of alcohol, in which to keep the trocar sterile and ready for use, and another to accommodate a long, sterile rubber

tube to serve as a connection between the flask and canula. Then in case of emergency the solution could be quickly raised to the required temperature, a small area of skin sterilized, the trocar introduced and the diagnosis made, the flask and canula connected, and, by raising and lowering the flask, the flow could be regulated and the amount noted. After a gentle flushing of the peritoneal cavity, 500 to 1000 cubic centimeters might be kept within and the patient sent to the hospital, the better prepared for later developments. Mark Jampolis (*Journal of the American Medical Association*, November 3, 1906).

LEPROSY, NEW ASPECT OF THE PATHOLOGY AND TREATMENT OF.

Attention is called by the writer to the condition of the nose and nasopharynx in leprosy. For a long time he was puzzled to account for the marked chemical differences between the maculo-æsthetic and nodular form of the disease. It finally occurred to him that the nodular and mixed forms were simply the maculo-anæsthetic form plus the infiltration and cedema of the subcutaneous tissue in various areas caused by the active invasion of the bacillus lepræ. In practically all cases of nodular leprosy, anæsthesias and leucodermic patches can be found just as in maculo-anæsthetic leprosy. The author also noticed that when a nose had fallen in, in some cases of nodular or mixed leprosy, the type of the disease in the individual seemed to change and he became practically, in course of time, a maculo-anæsthetic case, the infiltrations being gradually absorbed. He further noticed that some cases of undoubtedly maculo-anæsthetic leprosy were of an extremely mild character. A patient would have a few anæsthetic patches on his body,

with, perhaps, a contraction of the small and ring fingers of one of his hands, and would otherwise be in perfect health—in which condition he would remain for years. He also found that practically all the active cases of mixed and nodular leprosy suffered from rhinitis and were discharging bacilli with the nasal secretion in great numbers, whereas, except in a few of the early cases, he found that the maculo-anæsthetic patients had no bacilli in their nasal secretion.

The above considerations afforded him what he considered to be a solution of the problem. The writer thinks that there can be hardly any doubt that leprosy in its early stages begins as a small ulcer on some part of the extensive nasal mucous membrane. From clinical experience of the disease, it is well known that leprosy ulcers in favorable circumstances tend to heal. There can, therefore, be but little doubt that a person can suffer from a leprosy ulcer in the nose that may heal and pass entirely away. This is the explanation of the maculo-anæsthetic cases. They have had nasal ulceration which has passed away, in some cases leaving perhaps a cicatricial shrinking of the nasal septum; but during the time the ulcer existed, leucocytes or white connective tissue corpuscles got detached from the ulcerating spot, and along with the bacilli which they were attempting to devour, were carried by the bloodstream and lodged in various situations in the peripheral nerves, where they got entangled, and the bacilli then proceeded to grow, causing pressure on the fine nerve-fibrils, and consequently setting up nutritive changes in the skin which these axis-cylinders supplied, thus causing the patches of discoloration and anæsthesia.

The corollary from this theory of eti-

ology is that if the disease can be recognized in the nose in its early stages, the treatment can be brought into line with that of tuberculosis and diphtheria. The local nidus must be destroyed before the system at large becomes infected. The author also thinks that the opsonin theory of Wright may be applicable to the theory of leprosy. This possibility is made more promising by the fact that the bacillus lepræ seems to be a surface growth, and that it takes a very considerable time to become established in the body. R. S. Black (*Lancet*, October 20, 1906).

MALIGNANT GROWTHS, TREATMENT OF, BY ANÆSTHETIZATION.

The writer has already published his views on the subject of the influence of anæsthetization on inflammatory processes, and he now applies the same principles to the consideration of malignant growths. In inflammation he holds that the hyperæmia is the result of sensory impulses emanating from the affected area, and he believes that malignant new growths are similarly maintained in a state of congestion. This increased blood-supply is required for their abnormally rapid growth, and if this can be restricted the nutrition of the tumor will suffer to a considerable extent. A large number of experiments are described, which were performed on mice obtained from Ehrlich's laboratory and presenting various types of malignant tumors. Into the centers of the tumors, varying quantities of solutions of several anæsthetic substances believed to be without antiseptic power were injected, with the result that in nearly all instances the growth of the tumor was influenced for the better, and in some cases an actual cure was secured.

The author also details the results of similar experiments on inoperable malignant growths in human beings, which, he says, were undertaken mainly for the purpose of ascertaining whether any undesirable effect was produced by the injection. He refrains from any comment on these cases, but states that the subject is to be studied further in Czerny's new institute for cancer research, at Heidelberg. Spiess (*Münchener medizinische Wochenschrift*, October 2, 1906).

MASTOIDITIS, PREVENTIVE AND ABORTIVE TREATMENT OF.

Orthopædics of the nose occupy a basic and important position in regard to prevention of mastoid inflammation. Localized occlusion of the nasopharyngeal tract and interference with the normal air-currents of the head are important predisposing causes of mastoiditis, and prophylaxis demands their correction. Disturbance of mucous membrane of the nasopharyngeal tract predisposes to mastoiditis and requires treatment. Prophylaxis of mastoiditis in cases of chronic middle-ear suppuration is accomplished by cure of the suppuration, which can be done before the involvement of bone is extensive. Abortive treatment will succeed in the vast majority of acute cases, if commenced early. The writer considers that care of the middle-ear inflammation and Wilde's incision are the most important abortive procedures for mastoiditis. W. S. Bryant. (*The Post-Graduate*, November, 1906).

METRITIS, CHRONIC.

Clinically the authors recognize simple and complicated metritis. By "simple" is meant a disease of the uterus without participation of the

other pelvic organs in the disease-process; by "complicated" one of obviously inflammatory or congestive origin, with participation of other parts in the pathological processes. The uterus here is simply involved in a change which affects the whole or most of the genital system.

Pathologically, cases of simple metritis divide themselves into two distinct groups: (a) Those which, arising from infection, subinvolution, or from one of many other causes, show a degeneration more of the nature of an inflammatory deposit, or a deposit of passive congestion, which deposit is characterized by being granular or hyaline, frequently fragmented, poor in nuclei, and affecting both muscle and fibrous tissue, but chiefly the latter. The deposit is most marked where the tissue is of loose texture. In these cases the adventitia is most affected, and the media moderately, but it is very seldom that changes are found in the intima. (b) Those of true arteriosclerotic origin, characterized by true fibrosis of the uterine wall and arteriosclerotic changes in the vessels, all three coats of which are usually involved.

Cases of arteriosclerotic origin are not due to infection, and those of the other group may or may not be due to infection, depending upon the cause. Subinvolution, from whatever cause, is the most frequent cause of chronic metritis. In all cases of chronic metritis not arising from arteriosclerosis there is hypertrophy of the muscle, as well as of the non-contractile element, and the muscle hypertrophy is either due to incomplete involution or it is a result of congestion. In cases of arteriosclerotic origin, there may or may not be muscular hypertrophy associated

with the fibrosis. This will depend upon associated conditions.

Changes in the endometrium, in the nature of endometritis, will be found in cases of group (a) if it is of septic origin, but in group (b) the cause is primarily arterial, and endometritis may be secondary, but cannot be primary, except by association of two diseases. Hæmorrhages are not due to endometritic changes, but endometrial involvement may accentuate the flow.

The menorrhagia and metrorrhagia are due in group (a) to muscular insufficiency, not only of the uterine muscle but of the muscle of the arteries also. The muscular insufficiency is due to the restraining influence of the increased non-contractile tissue. The hæmorrhage in arteriosclerotic uteri is due to pelvic congestion and high arterial tension, with lack of contractility of the vessels in response to vasomotor stimuli, combined with muscular atrophy of the uterine wall.

The lumina of the vessels do not suffer to any great extent from the proliferation of the intima and the change is one of compensation. Many vessels must be examined in serial section to properly appreciate how much they are involved.

The general changes throughout the uterine wall in cases of fibroids or fibromyomata of the uterus, are similar to those in group (a), and the hæmorrhages arise from the same cause as those cases which fall in group (b). William Gardner and J. R. Goodall (British Medical Journal, November 3, 1906).

MIGRAINE, GASTROINTESTINAL DISTURBANCES AND.

One hundred and eight cases are added by the writer to 73 cases previously reported, in which gastrointes-

tinal disturbances were associated with migraine. He thinks that it is decidedly a hereditary disease. Of the 181 cases, 116 gave a definite hereditary history, and only a few gave no hereditary history at all. Of the whole number 155 were females and 26 males. Ninety had prolapse of one or more of the abdominal organs, most often the right kidney. One hundred and thirty-seven patients gave a definite history of digestive disturbances between the attacks, such as heaviness after eating, pyrosis, fermentation, constipation, or diarrhoea. One hundred and one gastric analyses were made. There were 32 cases of hyperacidity, 24 cases of hypacidity, and 25 were normal. By regulating, or leveling up, as the author calls it, digestive disturbances, he succeeded in accomplishing fairly good results. Bromides and cannabis Indica are the only two drugs he used. J. A. Lichty (New York Medical Journal, October 29, 1906).

NEURASTHENIA.

Neurasthenia is described by the writer as a disease most often found in hospitals in its uncomplicated form, but often accompanied by other morbid conditions which mask its symptoms, rendering diagnosis difficult. He has had the opportunity of observing a considerable number of cases, and attempts to give a symptomatic picture of the disease for the benefit of the general practitioner, who is usually the first consulted by the patient. The treatment by the general practitioner is usually entirely symptomatic, consisting of bromides in increasing doses, with the addition of hypnotics, the various coal-tar products and headache powders, with little or no effort to treat the underlying condition; the patient becomes worse or

fails to improve, finally consulting a specialist or entering an institution. These patients usually come from the city, though, perhaps, if the statistics of the relation of the cases to the population from which they are drawn were obtainable, it would be found that there was little or no difference.

Among the principal symptoms are mentioned headache, bitemporal or in the occipital region; insomnia; vertigo; pains in the spinal column; disturbed digestion; maximum blood-pressure is low in proportion to the mean; a special angina; depression of the functions of the genital organs; all these signs are augmented by a mental condition of general depression of the faculties without perversion. Neurasthenia is found among those men who lead strenuous lives, having great responsibilities and anxieties, without taking a sufficient amount of recreation and physical exercise, combined with irregular and bolted meals. The etiology can be classed under four heads: (1) mental strain; (2) disturbances of digestion, malnutrition, and autointoxication; (3) toxæmia from infectious diseases; (4) traumatism and shock.

There is no specific treatment in neurasthenia. Removal of the cause of worry, if possible, increased physical exercise, anything to interest the patient in some form of recreation, attention to the digestion, to the removal of the toxins from the system, and to the building up of the whole system in every possible way. Drugs, such as the bromides, the coal-tar derivatives, etc., should be used as little as possible, on account of their effect upon the assimilation, the circulation, and the blood; the coal-tar preparations are particularly contraindicated, on account of their destructive action on the red corpuscles. Bromides de-

press the heart and the vasomotor system, and should be used with caution. Hubert Richardson (Medical Record, November 10, 1906).

OTORRHOEA, CHRONIC; IMPORTANCE OF TREATMENT.

The destruction of the mastoid interior is by far the most frequent result of untreated otorrhœa. A not uncommon result is phlebitis and thrombosis of the smaller veins related to the diseased parts. Either the large venous channels, such as the sigmoid sinus or the jugular vein lower down in the neck, may become the seat of purulent thrombosis. Again, the brain-tissue, with its covering and blood-vessels, is often affected. Caries and necrosis of the ossicles or temporal bone are present in the larger number of cases of chronic aural suppuration which have not received proper care. The walls of the tympanic cavity, especially of the attical regions, may become involved. The general health of the individual is usually below par. S. Oppenheimer (Medical Record, November 3, 1906).

OVARİOTOMY, REMOTE RESULTS OF.

For fifteen years the writer has been making a special study of ovarian tumors, with histological examination and continued oversight of many of the patients. The total number that came under observation was 149, and operation was performed in 120 cases. He analyzes this material from various standpoints, with illustrations of special features. His experience has shown that cancer in the ovary threatens chiefly the peritoneum. Implantation in the peritoneum can be hastened by increased centrifugal proliferation of the cancer elements with perforation of the tumor wall, or by direct contact

of the tumor with the peritoneum when impacted in the pouch of Douglas, or by rupture of a cyst in consequence of torsion of the pedicle, or by flat, inflammatory adhesion, which is the worst of all complications, as the cancer grows into the lymphatics in the adhesion membranes. The patient succumbs to the influence of this peritoneal implantation before the cancer has involved the other ovary, the uterus, the broad ligaments, or more distant organs.

Improvement in the outlook in cases of ovarian cancer may be anticipated in the future only from earlier operations. The absolute and more remote proportion of permanent cures in his material was 12.5 per cent. in operations for removal of ovarian cancer. In operations for non-malignant growths the proportion of permanent cures (after five years) is 100 per cent. He found the genuine, solid cancers of the ovary characterized by lesser malignancy than the cystic "papillary" cancers. As these solid cancers generally develop in the comparatively young, the other sound ovary can be retained without much fear that this conservative treatment will avenge itself by later tumor formation in the retained organ. The tendency to tumor formation in individual cases is unmistakable, and justifies removal of the sound ovary even with non-malignant growths. Years after the removal of an innocent dermoid, the other ovary may present a malignant tumor, inoperable when first discovered, as has happened in his experience. Sarcoma in the young is an exception to this rule, as it shows little tendency to develop bilaterally. In one of the author's cases a pseudo-mucinous cystoma was associated with a large goiter and dermoid cyst. In 5 cases a pseudo-mucinous cystoma was associated with a dermoid

cyst. De von Velits (*Archiv f. Gynäkologie*, Bd. lxxix, Nu. 3; *Journal of the American Medical Association*, November 10, 1906).

PERICARDITIS, THE EFFECTS OF, ON THE HEART.

The symptoms and lesions of pericarditis are reviewed by the author, which are liable to be unrecognized because they are secondary in most cases to infections producing other symptoms that engross the practitioner's attention, especially when there is not much serous effusion. The myocardium is not apt to be seriously involved in acute or fibrous forms of pericarditis, save in cases where the pericardial inflammation has complicated an already enfeebling condition. The effects of adhesions have no characteristic symptoms, and rarely interfere with the functions of the heart to serious or even noticeable extent. The most trustworthy symptom is the changing shape of the area of precordial dullness during inspiration and expiration, which must exist when a pericarditis fastens the heart to the anterior wall of the chest. Adhesions are not usually very dangerous except in enfeebled conditions or after acute illness interfering with compensation.

In most cases pericarditis is not fatal. From 50 to 75 per cent. of patients are estimated as recovering. Rheumatic pericarditis, as compared with that from other infections, is benign. Purulent and hæmorrhagic pericarditis, unless recognized and successfully treated, is almost always fatal. A rapidly developed effusion is dangerous, but aspiration or treatment may produce recovery or a prolongation of life. A large, slowly-developed effusion is not threatening or immediately dangerous,

and a small effusion is of no more gravity than fibrinous inflammation. About one-third of all cases are sero-fibrinous; about one-sixth are hæmorrhagic or purulent; about one-twelfth tubercular, and in an approximate number there is total adhesion, but in one-third there are partial adhesions. The condition of the heart-muscle largely influences the prognosis. The chance of prolonging life is slight in cases of chronic alcoholism and the cachexias of cancer, Bright's disease, and tuberculosis. In these it is usually due to a terminal infection, and is often the direct cause of death. It is also a much more serious complication with pneumonia than tuberculosis, and is a very grave complication with sepsis. Naturally it is most dangerous at the extreme periods of life. N. S. Davis (Journal of the American Medical Association, November 3, 1906).

PERICOLIC INFLAMMATION.

Pericolitis is not very rare, although it is one of the less common forms of local peritonitis. It occurs in connection with the ascending as well as with the descending colon, but the author has seen no case in which it arose in the neighborhood of the transverse colon. The cause of pericolitis may be found within the colon as a result of chronic constipation, in the walls of the colon from ulceration of the mucous membrane or from the perforation of foreign bodies, outside the colon as a result of injury. Pericolitis ends in resolution, in chronic inflammation, sometimes with extensive thickening of the colon, or in suppuration, which is usually retroperitoneal. The treatment consists in an attempt to prevent the inflammation becoming chronic, and in the early opening of any abscesses which may be

formed. D'Arcy Power (British Medical Journal, November 3, 1906).

PSORIASIS.

The proposition is advanced by the author that psoriasis in man is an expression of resentment on the part of the skin against the partial or total exclusion of light from its artificially covered surfaces. In support of this view he cites the following facts. Psoriasis is a disease that never affects the lower animals, whether these be feral or in a state of domestication, for the reason that the integument of such animals is very rarely screened from the light by artificial covering. The number of persons whose skin is thus abnormally sensitive to the shutting off of light is relatively small. Just as in case of cancer of the skin, a certain special sensitiveness of the skin is required. Psoriasis is most prevalent and most severe at those seasons of the year and in those countries in which sunlight is least abundant and heavier, thicker garments are worn. The coarseness of the woolen garments worn in winter is responsible for much of the aggravation of symptoms. The disease is confined almost exclusively to white races. It is very rare in Africa. The localization of the disease in the integument is largely determined in the regions of exclusion of light from protected portions of the body.

The most effective treatment of the disease is by illumination of the regions chiefly involved. For the last ten years the writer has been treating psoriasis by exposure of the skin to sunlight, with very satisfactory results, considering all the difficulties met with.

The writer sums up his theory as follows: There is good reason to believe that the phototaxis of the skin, when

it is normally active, exerts an inhibitory influence upon the interplay of the elements of which the skin, or at least its more superficial portions, is composed. Under the influence of light the molecules of matter swing in proper rhythm. If the light be wholly or partially withheld by covering the body with clothing, as a rule, no marked perversion occurs. But in the few, when such inhibition is wholly or partially prevented by the interposition of a light-screen, the skin rebels. J. N. Hyde (*British Medical Journal*, October 6, 1906).

PSORIASIS.

From a study of 500 cases the writer concludes that psoriasis is not a purely local disease of the skin, but has constitutional relations which are most important. It is not a parasitic disease of the skin, in the usual acceptance of the term, it is not contagious, nor has it a definite microörganism. But probably the immediate lesions of the skin are caused by the growth of some of the ordinary microörganisms usually found on the skin, which take on a pathogenetic action when the soil is suitable. Psoriasis cannot be cured permanently by local treatment alone, although when properly directed this is commonly capable of removing existing lesions, which are likely to return. In some instances in which local treatment seems to be followed by success, the eruption may be seborrhœic dermatitis, which in some of its phases closely resembles psoriasis.

Hereditary influence is a relatively unimportant factor, not operative in more than one-quarter of all cases: even in many of these instances but one child may be affected among many healthy children. Psoriasis is not a

late manifestation of syphilis. There is no one tangible internal cause, though faulty metabolic changes are probably at the bottom of every case, and these may be induced in many ways.

The repeated and thorough volumetric analysis of the urine is a most valuable aid in determining the line of proper treatment in different cases, and at different times. There is no one internal remedy universally of value in psoriasis, although arsenic is the single agent of most service in the greater number of instances. Arsenic is safe, if properly used, and may be taken for a long time with only beneficial results, but it commonly requires to be employed in conjunction with other internal measures, or alternated with them. In acutely developing psoriasis it often acts badly, increasing the eruption. In a large share of cases, alkalies, if properly used, are of the greatest value in this disease. The avoidance of meat, or an absolutely vegetarian diet, is a most valuable aid in treatment, and sometimes will be attended with freedom from eruption.

Psoriasis is an exceedingly chronic and rebellious disease, and effective internal measures must be continued for a long time, generally for at least two years, to insure a cure. Local treatment is of the greatest value in the removal of the eruption present, but its temporary success should not interfere with the persistence in proper internal measures for a length of time, even when no eruption exists. The eruption can also disappear under the strictest proper internal treatment, without the aid of any local measures. The x-ray is a most valuable adjunct to local therapeutics, and is sometimes capable of removing chronic lesions even by means of a single application.

L. Duncan Bulkley (*Journal of the American Medical Association*, November 17, 1906).

PUERPERAL INSANITY.

Puerperal insanity is typically an acute mania; any one of the so-called causes of insanity, for example, fright, shock, undue worry, or a neurotic inheritance will render the patient liable to an attack. The writer does not think that the thesis that sepsis is invariably present can be sustained, though a considerable proportion are undoubtedly septic. The prognosis is favorable, and with a good family history, and in the absence of septic poisoning, recovery may be anticipated within six months, and subsequent attacks are not greatly to be feared.

Special symptoms must be dealt with as they arise, but the essence of treatment consists in an abundance of bland nutritious food and competent nursing. Alan Rigden (*British Medical Journal*, November 10, 1906).

PULMONARY ADENOPATHIES.

Anatomical and radioscopic investigations show a difference between pulmonary adenopathies and those of the mediastinum and trachea. Only the first of these will inform us as to the condition of the lung. In every form of pulmonary infection, whether tuberculous or otherwise, according as the pulmonary glands are found greatly developed, hypertrophied, and numerous, so will the pulmonary process be found more intense. In order to make a satisfactory radioscopic examination of the glands there must be a movable ampulla, a good diaphragm, and rays of average penetration. While tracheal adenopathies require an oblique lateral examination, pulmonary adenopathies call for

one that is anteroposterior. They will be found on either side and at a certain distance from the vertebral columns. They are much more frequent on the right side, and are better seen by an anterior examination of the body.

The appearance of these adenopathies differs according as the lesion is chronic or recent. The image may be classified as follows: 1, Homogeneous band. This is observed when the glands are inflamed and hypertrophied, and may be seen in every pulmonary disease, whether tuberculous or nontuberculous. 2, Moniliform band, with black spots upon a dark base. This is seen in abortive and fibrocaceous tuberculosis with repeated attacks. 3, Dark, rounded spots, with limited contours. This is observed in cases of latent tuberculosis. 4, Radioscopic examination enables one to make a diagnosis of pulmonary adenopathy which would otherwise be overlooked. It enables one to foretell the method by which the disease will progress by determining the process which will be taken by the bacilli, or by enabling one to differentiate between progressive and stationary lesions. M. Piéry and A. Jacques (*Revue de Médecine*, August, 1906; *New York Medical Journal*, September 22, 1906).

RHEUMATISM, CHRONIC; CEREBRAL MANIFESTATIONS OF.

Attention is called by the writer to the intimate connection between chronic rheumatism and paralysis agitans. He has recently made an autopsy in an abnormal case of paralysis agitans in a woman of 72 years of age, whose father had been a sufferer from chronic rheumatism. He found a great dilatation of the cerebral ventricles, which were distended with fluid; and he suggests a diffuse inflammation of the structures

containing the cerebro-spinal fluid as an etiological factor in both diseases.

The resemblance between rheumatism and Parkinson's disease is clinical as well as anatomical. Both are diseases of overwork. The place of onset of the tremor, no less than of arthritis, is in certain cases determined by injury, while in nontraumatic cases the tremor comes on first in the limb most subject to fatigue, the right side in right-handed people, the left in left-handed. But the true clinical analogy lies in the rigidity, the relative immobility, and the apathy, both physical and mental. The mental state in both maladies strongly resembles that of neurasthenia, a disease whose relationship to rheumatism is now recognized as intimate. There is the peculiar disinclination to effort, the morning lassitude, and the tendency to apathy, which is influenced by atmospheric and barometric conditions. The neurasthenic condition of the arthritic often goes on to actual melancholia. Occasionally more complicated mental states result. Lépine has recently had under observation a man, aged 45, who had grave mental obsessions. The man's father died in the asylum, with a delusion that he had been bitten by a rabid dog. His mother, brother, and sister had all suffered, both from rheumatism and from nervous ailments. Ten years before the man had been bitten by a dog which was known to be healthy. Nevertheless he had a crisis similar to his father's, and was obliged to give up work for two months before the obsession disappeared. No further mental symptoms were observed for ten years, but for two years the patient was overworked, mentally and physically. He then scratched his hand upon a nail in a room which no dog had entered. The obsession of hydrophobia

appeared almost at once and was persistent. Under treatment by bromide, and a meat and wine diet, he became suicidal. After he had been recognized as an arthritic he was put upon a milk and vegetarian diet. Small doses of Fowler's solution were substituted for the bromide at the same time, and improvement was at once noticed. Two months later the patient seemed completely cured, and was able to resume work. Jean Lépine (*Lyon Medical*, October 7, 1906; *British Medical Journal*, November 17, 1906).

RHEUMATISM, CHRONIC, HYDROTHERAPEUTIC TREATMENT OF.

Much satisfaction has been obtained by the writer from the following plan of treatment: The patient is given an electric-light bath, temperature 150° F., duration twenty minutes, to be followed by a circular douche, 90° F., duration one minute; this is followed by a Scotch douche to the affected joints, and this in turn is followed by a general massage, with special attention to the affected joints or muscles. Three treatments a week are usually sufficient for these cases.

The Scotch douche referred to consists in the alternate application of hot and cold water. The author styles it "the douche of thermic contrasts." His apparatus has three tubes placed side by side, one for live steam, one for cold water, and the third gives any desired temperature, as the thermometer is in contact with the mixing chamber. He usually employs steam and cold water for the Scotch douche, and by means of the rapid alternation in the application of live steam and cold water to the affected parts, a most profound local effect is produced, and a marked hydrotherapeutic reaction is brought about.

The value of this douche consists in the combination of thermic and mechanical stimulation. The mechanical effect is produced because the water comes out of the tubes under pressure, which can be increased as desired, while the marked thermic stimulation is due to the tremendous difference in the temperature of cold water and steam. The increase of vital activity brought about by the reaction following the Scotch douche becomes of great value in restoring the functions of diseased parts. On account of the improved circulation, absorption of the deposits in the joints is brought about. J. J. Levy (New York Medical Journal, October 13, 1906).

RICKETS, ABDOMINAL ATONY IN.

Attention is called by the writer to the importance of abdominal atony and distension in rickets. It affects the gastrointestinal motor functions both as to excretion and secretion; it interferes with the circulation and produces a passive portal congestion; it produces functional anatomical alterations in respiration; and, finally, it causes eversion of the costal arch. Two measures are of great value in the special treatment of the abdominal atony. (1) Massage of the abdomen, which invigorates the muscles, reduces the distension, disperses visceral congestion, and assists respiration. (2) The use of an elastic abdominal belt; this is automatic, gives lateral support to the weak abdominal parietes, improves the distribution of the blood and corrects the apparent oligæmia, and is of the greatest assistance to the respiration. Above all, it stimulates the growth of the abdominal muscles. W. Ewart (British Medical Journal, October 13, 1906).

SARCOMA OF THE STOMACH.

Sarcoma of the stomach, though an uncommon affection, is less rare than has been supposed. The diagnosis of the round-cell varieties is practically impossible, though its existence under certain conditions might be suspected. Those of the spindle-cell type should be frequently recognized and often suspected. In either case, the early recognition of a purely surgical condition is easy in the majority of instances. Since prompt radical treatment offers not alone the best, but also the only, hope of permanent relief, without a forbidding immediate mortality (which should now not exceed 10 per cent.), procrastination here, as in all cases of suspected malignant disease, is in keeping neither with science nor humanity. John L. Yates (Annals of Surgery, October, 1906).

STENOSIS OF OESOPHAGUS, MORPHINE IN TREATMENT OF.

A number of cases of traumatic or cancerous stenosis of the oesophagus are reported by the writer, in which the patients were relieved to a remarkable extent by small doses of morphine (about 15 drops of a 1-per-cent. solution before meals) and a liquid diet. In one of the cases described, the oesophagus was completely closed and any attempt to introduce a sound induced hæmorrhage. Under the morphine, the ability to swallow fluids was restored and the pain during the swallowing was abolished. The morphine, of course, can do no good when the oesophagus is closed absolutely by tissue-growth, but the presence of even a comparatively small new growth or stricture is liable to induce spasmodic closure of the lumen, and it is in such cases that the morphine proves useful. D. Gerhardt (Münchener medizinische Wochenschrift, Bd. LIII., Nu.

27; Journal of the American Medical Association, October 6, 1906).

**SYPHILIS, ROUTINE TREATMENT WITH
INTRAMUSCULAR INJECTIONS OF
MERCURY SALICYLATE.**

The use of mercury salicylate is advocated by the writer for intramuscular injections in syphilis. Given either by injection or by the mouth, there is an absence of the gastric irritation, diarrhoea, colic, and other objectionable symptoms produced by the other insoluble compounds at our disposal. As it is insoluble in water, it is best administered in suspension, liquid petrolatum or some similar oily substance being used as a vehicle. It very rarely produces gastrointestinal symptoms or abscesses. The precaution of ascertaining if the needle has entered a vein should be carried out as a routine treatment. There are only two situations available for the injection: the gluteal region, usually selected on the great mass of muscular tissue, and the interscapular region, but this one only for one or two injections. The changes produced in the tissue at the site of the injection are described by Pezzoli as follows: The muscle-tissue contains numerous cavities of round or oval shape, filled with the suspension fluid and a small quantity of the unabsorbed salicylate, and are surrounded by giant cells and round-cell infiltration. In addition to these changes, waxy degeneration of the muscle-cells and hyperplasia of the fat-cells are present. Owing to the great number of muscle-cells in the gluteal muscles, these changes do not affect the function of the muscles.

The primary injection should consist of $1\frac{1}{2}$ grain of the salicylate or 5 minims of the 1-to-10 suspension. The first injection is generally followed in two days

by a second injection of $\frac{3}{4}$ grain. Four days are then allowed to elapse if there is no great necessity for rapid mercurialization, before the third injection of $1\frac{1}{4}$ grains is administered. In order to treat syphilis properly, the patient must be kept on an amount of mercury a fraction of a grain less than the quantity known to produce mercurialism, and it is always better to produce a slight gingivitis or other symptom of mercurialism and in this way find out how much mercury is necessary to keep the patient under control, instead of giving smaller doses without the knowledge of the patient's tolerance. In more than 75 per cent. of syphilitics $1\frac{1}{4}$ grains every seven days will suffice to keep the patient under control; but occasionally $1\frac{3}{4}$ and 2-grain doses are found necessary.

As to the length of time over which the treatment should extend, it is customary in this country to give a course of the injections for two years and then, after a rest of a few months, reinstitute treatment for six months or a year. W. H. Palmer (Boston Medical and Surgical Journal, October 25, 1906).

TOXIC ŒDEMA.

In discussing the forms of œdema which occur in such conditions as pernicious anæmia and the cachexia attending phthisis or malignant disease, the writer states that toxic œdemas may be caused in any of the following ways: through the local action of the toxic substance either on the vessel walls, on the tissues themselves, or on both; through the toxic action on the nerves of the region in question, either centrally or in their courses. These nerves may be vasomotor nerves, affecting either the caliber of the vessel or the permeability of its wall, or they may be

trophic nerves, supplying the tissues themselves, or both varieties may be affected. Either the one or the other of these modes of causation may be observed clinically. The neurogenous variety is observed in cases of œdema attending paralysis, and the migration of localized œdemas sometimes observed may also be explained on this basis. Quincke (*Berliner klinische Wochenschrift*, October 1, 1906; *Medical Record*, October 27, 1906).

TRACHOMA, RADIUM IN THE TREATMENT OF.

The writer reports seven cures out of sixteen patients. The trachoma granules completely disappeared, but in three a conjunctivitis persisted which needed treatment with zinc sulphate. The younger the patients, the quicker and more perfect will be the cure, while in older cases and in those complicated with pannus more time is needed, but the pannus and trachoma granules disappear gradually, and the patients are rendered able to work. The writer prefers the treatment with radium to that with caustics, because it is quicker and painless, and the patients prefer it to the mechanical removal of the granules, because the latter is very painful and necessitates entrance into the hospital. A. N. Dinger (*Berliner klinische Wochenschrift*, October 1, 1906; *New York Medical Journal*, November 10, 1906).

TUBERCULOSIS, OBESITY IN.

A form of tuberculosis is described by the writer characterized by obesity. He considers this variation of the tuberculous manifestation to be due to two factors: the soil on which the infection is implanted, which he calls, with apologies, by the antiquated name of scrofulous; and the attenuated quality of the pathogenic agent, namely, Koch's bacil-

lus. Local tuberculous lesions are generally associated with an excessive deposit of adipose tissue, and the author's observations lead him to the conclusion that there is a form of tuberculosis which may become the starting point of contagion all the more easily because the danger is not suspected. He regards phthisis in the obese as a curable variety of tuberculosis, remaining, as it does, in the condition of a local lesion and therefore compatible with a prolongation of life. In short, paradoxical as it may appear, he has come to the conclusion that a patient infested with tuberculous bacilli may still live and grow fat. Guilhaud (*La Clinique*, April 27, 1906; *British Medical Journal*, November 3, 1906).

TUBERCULOSIS, PULMONARY, PULSE AND TEMPERATURE IN DIAGNOSIS AND TREATMENT OF.

Although the members of the profession at large pay but little attention to either pulse or temperature in the treatment of pulmonary tuberculosis, yet observations of these phenomena are considered by the writer to be of great importance. One of the earliest symptoms of the disease is the rapid pulse-rate, and when a pulse-rate above 100 is found it should be regarded with suspicion. When the disease is active or progressive, a most constant symptom is rise of temperature. It is the best guide in the treatment and prognosis. By careful observation of the temperature, much is to be learned as to the virulency of the disease; if it is under 100.4° F., the trouble is only moderately active, and the open air and nourishment will do much toward effecting an arrest and establishing a cure. As the temperature rises above 100.4° F., the disease becomes more virulent, with lessened chances of the fire that pro-

duces the temperature being finally extinguished.

In every active case temperature presents itself at the same time each day, with almost clocklike regularity. A temperature record is valueless unless the observations are taken regularly and at the same time each day. In comparing a carefully kept temperature record with a physical examination, it is found, of the two, the record is the more valuable. A physical examination tells practically nothing; it simply locates the trouble, in which lung it is, and its approximate extent, *i.e.*, it tells what has already been destroyed. A physical examination is very unsatisfactory and cannot be compared to a pair of scales and a thermometer, which should be first in importance, for with them a fairly accurate prognosis can be made and the proper treatment outlined, neither of which could be done from a physical examination. The pulse-record is second only to temperature. The pulse-rate may remain high for many months after the temperature has become normal, and if extremely high, may make it necessary to enforce rest even after the temperature has been normal for some time. J. E. White (*Archives of Physiological Therapy*, October, 1906).

TUBERCULOSIS, TONSILS AS ENTERING POINT FOR.

The principal communications previously published on this subject are summarized by the author, and he gives the details of 100 cases in which the tonsils were found enlarged and tuberculous among 900 tuberculous inmates of the Cottbus Sanatorium. Tubercles were found in some of the tonsils, when outside they were apparently sound in appearance. A tuberculous process in the tonsil is a very frequent accompaniment of tuberculosis of the lungs,

and a primary tuberculous process in the tonsil is occasionally encountered, the result of infection from inhaled or swallowed germs. The tonsils as an entering point for tuberculous infection have not much importance for adults, but in children they may serve as well as abrasions of the skin, carious teeth, etc., to allow the entrance of the bacillus. Bandelied (*Beiträge zur Klinik der Tuberkulose*, Bd. vi., Nu. 1; *Journal of the American Medical Association*, November 17, 1906).

TYPHOID FEVER, DIAGNOSIS OF.

Typhoid fever *anatomically* is characterized by a specific inflammation of certain lymphatic structures of the intestinal tract. This is principally marked in the Peyer's patch of the ileum. This characteristic of the ileotyphoid has served to stamp it as a pathological unit, and has separated it from typhus and other seemingly identical fevers. *Bacteriologically*, typhoid fever is a well-marked group of infections characterized by a bacteriæmia or toxæmia, due in a majority of cases to the Eberth bacillus, and in a minority of cases to a number of microorganisms, which stand between the Eberth bacillus and the coli group. These latter microorganisms have up to this date only been determined in part. *Clinically*, typhoid fever is a well-defined endemic and epidemic disease, with a tendency to self-limitation and immunization. The disease is characterized by certain cardinal symptoms, the typhoid tongue, the headache, the tremor, the typhoid state, the slow dicrotic pulse, the enlarged, often palpable spleen, the rose spot, the characteristic temperature curve, the diazo reaction, the leucopenia, the Gruber-Widal test. Richard Stein (*New York Medical Journal*, November 17, 1906).

TYPHOID FEVER, UNUSUAL COMPLICATIONS OF.

The irregular course of typhoid fever and its attendant complications are due most likely to some inherent differences in the bacilli themselves, although thus far it has been impossible to distinguish them by any known laboratory methods. In one of the cases reported there developed, during the second week of an unusually mild attack of typhoid fever, a pneumonic process in the left lung. Although the typhoid subsided, the pulmonary process persisted unchanged, with continued irregular temperature. On the forty-third day of the disease, the patient suddenly coughed up about a pint of pure pus, and then the pulmonary signs and the temperature subsided for a time, only to be renewed until another collection of pus was coughed up. Then the patient made an uninterrupted recovery. In the second case a membranous enteritis appeared during the period of convalescence. The writer thinks that the typhoid process served in this instance to bring on the secondary enteritis, due to the irritation of the diarrhoeal discharges combined with a specific toxic action. In the third case a rapidly increasing coma appeared on the seventh day of the disease. The patient died in this state, and a meningeal involvement was suspected. The autopsy showed extensive meningeal hæmorrhages, which, together with the bleeding into a number of other organs, seemed sufficient to account for the profound anæmia observed during the last few days of life. Such hæmorrhages during the course of typhoid fever are quite rare and there is nothing certain in regard to their etiology. Probably they are analogous to the hæmorrhages observed during the course of a severe sepsis. Pfister (*Deutsche medizinische Wochenschrift*,

August 9, 1906; *Medical Record*, September 1, 1906).

VARICOSE VEINS OF THE LEG, RESULTS OF OPERATIVE TREATMENT OF.

Varicose veins of the leg are not an incident of senility; the condition is rather a disease of young and middle-aged individuals, over one-third of the cases appearing before the thirtieth year and two-thirds before the fortieth year. From an etiological standpoint, there are two classes, viz., inflammatory and non-inflammatory. The inflammatory group includes about one-third of all cases, phlebitis occurring as a complication or sequel of pregnancy, post-operative convalescence, or an acute infection, among which typhoid fever is the most frequent. The pathology of the non-inflammatory group is obscure. In 128 cases the right and left legs were affected in about equal proportion; over one-half of the cases were bilateral.

Trendelenburg's operation cured 78 per cent. in a series of 41 cases; this is about the result generally reported. In the first four post-operative years 89 per cent. were cured, in the fifth to eighth post-operative years but 63 per cent. were cured; the tendency to recurrence of symptoms increased as the post-operative interval lengthened.

Schede's operation cured 33 per cent. in a series of 9 cases. Of 2 cases, two years or less since operation, both were cured; of 7 cases, more than two years since operation, but one was cured. The tendency to recurrence of symptoms as the post-operative interval lengthens is much greater after a Schede than after a Trendelenburg operation.

Division between ligatures of the saphenous vein does not insure permanent occlusion. The venous stream may be reëstablished in three ways, viz., dilatation of anastomoses around the point of

division (2 cases), formation of varices in the scar (3 cases), or end-to-end anastomoses of the ligated stumps (3 cases). The Schede operation is followed particularly by anastomosis of ligated stumps; of 6 cases examined, 3 showed an intact saphenous vein running directly through the scar. Functional restoration of the saphenous vein may be, but is not always, accompanied by recurrence of symptoms. Resection of 8 centimeters or more of the saphenous vein, at the saphenous opening made through a generous transverse skin-incision, is to be preferred to simple division of the vein.

Post-operative pulmonary embolism is rare, but has occurred between the fourth and thirteenth days. The onset is marked by sudden dyspnoea, cyanosis, tachycardia, and signs of collapse, accompanied by rise in temperature; the symptoms may subside rapidly, may persist with the physical signs of pulmonary infarct, or may be followed immediately by sudden exitus. R. T. Miller, Jr. (Bulletin of the Johns Hopkins Hospital, September, 1906).

X-RAYS, DANGERS OF THE.

The dangers from the constitutional effects of the x-ray are very well brought out by the writer, and as he says, the lateness of the recognition of these effects is one of the most remarkable facts in the medical history of this powerful agent. His study of the subject during the past eighteen months has shown that the rays have effects on metabolism, in some instances most violent, occurring even in normal individuals, and that these are apparently present whenever a general influence is clinically observable. These metabolic changes are due largely, if not entirely, he thinks, to tissue-destruction, as shown by a relatively large output of uric acid, purin

bases, and phosphate, indicating the excess of nucleo-protein destruction. Histologic studies by Warthin and others show that the organs most affected are the bone-marrow, spleen, and lymphoid tissues. The author states that the effects of a single dose may be more severe than those of a similar dose of any other therapeutic agent with which the writer is acquainted, and may be either very useful clinically or so dangerously violent as to hasten death, or even to cause it where it might otherwise have been avoided. He has known of two deaths from this cause. He thinks we will have to recast our views somewhat; instead of considering the x-ray as an agent only secondarily and somewhat distantly harmful, it should be recognized as an agent as effective as a powerful drug, and not to be used without good and sufficient reasons and with all needed precautions against its doing any possible harm. The x-ray specialist, moreover, should be fully informed as to all possible contraindications, so as to be able to employ reasonable caution in his applications. The writer compares the x-ray to anaesthetics, which no one thinks of recommending without due consideration of their possible dangers in any particular case. Two groups of disorders are mentioned which seem to deserve more careful consideration in this connection than others. One of these is nephritis; the other includes patients suffering from any serious degree of toxæmia. A possible third group includes patients with decided anaemia, especially if combined with toxæmia. The writer believes that there are decided therapeutic possibilities in the action on metabolism of the x-ray, but it must be used with a definite appreciation of its restrictions. D. L. Edsall (Journal of the American Medical Association, November 3, 1906).

Book Reviews.

MAN AND HIS POISONS. By Albert Abrams, M.D. 268 Pages. \$1.50. E. B. Treat & Co., 1906.

The book before us is of a size, character, and scope, which would seem to fill a sphere of large usefulness. It gives voice to the opinions of a man moved by his convictions to speak from the fullness of an unusual training and obviously of wide experience. The perils of the human organism are discussed, in a series of essays, from the standpoint of the retrograde processes, both those inevitable and exigent. It is filled with important points of information, culled from the best authors, judiciously adapted to practical needs. It includes not only a number of points in physiology frequently overlooked, in general pathology not clearly or practically understood, and the psychologic facts which bear upon these or are the outcome in large measures of their effects. It contains a vast lot of useful hints to the physician, and can be read by the layman with much advantage. It shows in a peculiarly clear and forceful fashion the trend of modern thought in respect to personal hygiene and rational therapeutics. The style is excellent, although somewhat emphatic, not to say dogmatic, but this is a useful feature. It is undoubtedly scholarly and most helpful.—J. M. T.

THE MASTERS OF FATE. THE POWER OF THE WILL. By Sophia P. Shaler. \$1.50. Duffield & Co., New York, 1906.

The book before us, while not avowedly on medicine, nevertheless presents so many phases of invalidism and the triumphs of the inherent powers of the organism through the exercise of will-power, that it makes a valuable contribution. Indeed, it is just the sort of book for which the reviewer has been looking, suitable to place in the hands of invalids for enlightenment and stimulation. There is a great field for non-technical literature bearing upon this subject of volitional disorders, psychoses, etc. There are a number of books on "The Power of the Will," "The Will to be Well," etc., which contain some valuable thoughts, but when scrutinized are found to be merely exploitations of some semi-religious belief and not to be generally accepted. The most successful cult, financially and politically, is that of the Eddyites. While they accomplish some good, they do so often at the expense of accuracy and honesty. The book before us constitutes an admirable, scholarly review of literature, especially biography, citing instances of distinguished people who possessing only feeble bodies yet have attained success, or at least satisfaction, in many lines. Furthermore, there is a system in the presentation which is valuable. The chapters include invalidism in various forms, with ample illustrations from life. It is indeed illuminating to read this admirable book. It should be commended to the medical reader, and he will find it of much value to put into the hands of his choice patients.—J. M. T.

PREVALENT DISEASES OF THE EYE. By Samuel Theobald, M.D. 551 Pages, with 219 Illustrations and 10 Colored Plates. \$4.50 and \$5.50 net. W. B. Saunders Company, Philadelphia and London, 1906.

Dr. Theobald's handbook is unique, in so far as it is written for the general practitioner and medical student. Although it seems rather large for this purpose, nevertheless it is most admirably adapted for widespread use among general practitioners. This can be the more positively asserted by the reviewer, who, although not himself an ophthalmologist, spent several years in an eye dispensary, which has shown him the great importance of a practical knowledge of diseases of the eye independent from those special items of knowledge essential to the specialist. Doubtless in many books written for ophthalmologists there is much plain talk to be found, but so encumbered with technicalities as to make them less readable. Here we find careful, clear, full directions how to examine and treat those diseases of the eye which inevitably come under the observation of most medical men. The presentation is attractive, the presswork excellent. The large number of colored plates, particularly good, enables one to recognize at a glance and classify conditions. The book can be thoroughly

recommended, and it no doubt will have a large sale among the rank and file of the profession.—J. M. T.

ATLAS AND TEXT-BOOK OF HUMAN ANATOMY, Vol. I. By Professor J. Sobotta. 258 Pages, containing 320 Illustrations, Mostly in Colors. Price, \$6.00. W. B. Saunders Company, Philadelphia and London, 1906.

Professor Sobotta is modest in his claims, offering a book "not to the anatomist, but to the student and practitioner." It does deal with the regional aspects of anatomy, but in a masterly fashion. The plates, from which we must chiefly judge, are exquisitely beautiful and of admirable perspective and modeling. We have seen and reviewed many works on anatomy, but nothing in which the charm of the pictures is greater. We must refer particularly to figure 280, a dissection of the muscles of the face and scalp, shown in a three-quarter view with fidelity and beauty. It is a distinct pleasure to scrutinize both lithographic plates and also excellent wood-cuts, many of them in colors, which accompany them as explanatory details.—J. M. T.

AMERICAN ILLUSTRATED MEDICAL DICTIONARY. By N. A. Newman Dorland, M.D. 836 Pages, Flexible Cover. Fourth Edition. W. B. Saunders Company, Philadelphia and London, 1906.

Much may be said in favor of a dictionary of this convenient size, it being not larger than the average medical book and comfortable to the hand, of excellent make-up and flexible binding. One naturally compares it with the classical volume by Geo. M. Gould, with whom Dr. Dorland was formerly associated in dictionary work. This dictionary of Gould's, despite its greater size, is invaluable to the thorough medical student. The one under consideration furnishes an astonishing lot of detail, a wealth of illustration, many separate colored plates, elaborate tables of arteries, nerves, muscles, etc., bacilli, bacteria, micrococci, streptococci, ptomaines, leukomains, weights and measures, eponymies, operations, signs and symptoms, stains, tests, methods of treatment, etc.—J. M. T.

ECZEMA. By Samuel H. Brown. 105 Pages. P. Blakiston's Son & Co., 1906.

Eczema is such a gigantic subject, although it be technically but one of the dermatoses, that a separate volume is devoted to the subject. Dr. Brown speaks from an extended experience and presents an eminently practical volume, setting forth the essential points, and offering a multitude of useful formulæ devoted chiefly to local treatment. It would seem, upon casual examination, that the subject would well have warranted more attention to systemic conditions, although these are alluded to under treatment in an abbreviated form. X-ray treatment is barely alluded to, although this is "the coming measure;" there should be more definite statements made, because of its perils and the fact, which seems obvious, that in using special rays it is most important that they should be applied only by one who is sufficiently familiar with their use in connection with diseases of the skin.—J. M. T.

SAUNDERS POCKET MEDICAL FORMULARY. By William M. Powell. Eighth Edition. 300 Pages. W. B. Saunders Company, 1906.

The eighth edition of Saunders Pocket Formulary, by William M. Powell, is, as always, thoroughly revised, and in this instance adapted to the Pharmacopœia of 1905. Much has been omitted and 460 new formulæ added, culled from the best medical authorities. Books of this character seem to be desired and extensively used, and are undoubtedly useful in recalling many important points. One of the most excellent features is the moderate size, wonder always being excited that so much wisdom can be compressed in so small a space.—J. M. T.

SECOND ANNUAL REPORT OF THE HENRY PHIPPS INSTITUTE FOR THE STUDY, TREATMENT, AND PREVENTION OF TUBERCULOSIS.

This unique organization demands the attention of every clinician. The report contains no table of contents, but a fairly complete index, and the whole occupies 450 pages. The work of the year, written by Dr. Lawrence F. Flick, medical director, gives, in 50 pages, much

valuable information, suggestions, and recommendations, with abstracts and statistics. The autopsy report is by C. Y. White. The laryngologic report is by G. B. Harland. The neurologic work by D. J. McCarthy is full and suggestive. The mental attitude is by J. F. Wallace; the kidneys, by Joseph Walsh; the cardiac conditions, by Geo. W. Norris; the liver, by Jos. T. Ullom; pneumothorax, by William B. Stanton; reports on Maragliano's serum, by M. P. Ravenel. Review of recent investigations of the immunization of animals is by Leonard Pearson. Then follows a number of clinical reports of the use of serum by different men. The whole constitutes an admirable, suggestive statistical study.—J. M. T.

RECENT ADVANCES IN THE PHYSIOLOGY OF DIGESTION. By Ernest H. Starling. 150 Pages. \$2.00. W. T. Keener & Co., Chicago.

The lectures of Dr. Starling in connection with the physiologic department of the University of London constitute delightful reading, because of the charming method of presentation and style. The author pays high tribute to the researches of Pawlow, of St. Petersburg, and constantly refers to his work, but supplements this by various observations and references to his own and other researches. The reviewer is familiar with Pawlow's work, and while interested in his findings, it can well be conceded that the ordinary clinician would be somewhat discommoded by the large amount of technical detail, while here the whole subject is put in a most comprehensible form. This book is by far the most satisfactory outline of this important subject known to us and places it well within the grasp of the general practitioner.—J. M. T.

INTRODUCTION TO PHYSIOLOGY. By William Townsend Porter, Associate Professor of Physiology, Harvard Medical School. Second Edition. 590 Pages. J. B. Lippincott Co., 1906.

This little book is essentially a laboratory manual, giving methods of procedure in the study of experimental physiology and the understanding of essential principles by actual demonstration. It is especially adapted to the teachings at Harvard, and illustrates the new method there employed. This consists of experiments and observations by the student himself, and inculcates the value of personal observation rather than the acceptance of authority. The author intends to amplify this collection of fundamental experiments into "a laboratory text-book of physiology." So soon as the student comes to realize that physiology is the essential key to every branch of medicine, and will proceed to make himself familiar with the acceptable conclusions, he will be fitted to become, and only then, a competent clinician. The teachings at Harvard are clearly in the forefront of progress. Despite the fact that no more is claimed for this little book than has been stated, it presents interesting reading. It will naturally be better to carry out the experiments to appreciate them.—J. M. T.

Books and Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following books and monographs:—

"Hypnotism or Suggestion and Psychotherapy. A Study of the Psychological, Psycho-Physiological, and Therapeutic Aspects of Hypnotism." By Dr. August Forel. Translated from the Fifth German Edition. 1906.—"Conferences of the Moral Philosophy of Medicine." Prepared by an American Physician, 1906.—"The Ear and Its Diseases. A Text-book for Students and Physicians." By Seth Scott Bishop. 1906.—"A Primer of Psychology and Mental Diseases." By C. B. Burr. 1906.—"A Treatise on the Motor Apparatus of the Eyes. Embracing an Exposition of the Anomalies of the Ocular Adjustments and their Treatment, with the Anatomy and Physiology of the Muscles and their Accessories." By George T. Stevens. 1906.—"Genito-urinary Diseases and Syphilis." By Henry H. Morton. 1906.—"Studies in the Psychology of Sex—Erotic Symbolism, the Mechanism of Detumescence, the Psychic State of Pregnancy," By Havelock Ellis. 1906.—"Transactions of the

American Otological Society, Thirty-ninth Annual Meeting." Volume X, Part II. 1906.—
 "La Fièvre Bilieuse Hémoglobininurique dans le Bassin du Congo." Par le Dr. Louis Védý,
 Paris, 1906.—"The Prevention of Tuberculosis." By Samuel G. Dixon, Philadelphia, 1906.
 —"Presidential Address. The Physician as a Character in Fiction." By C. B. Burr, Flint,
 Mich., 1906.

The following have been received from the United States Department of Agriculture,
 Washington, D. C.: "Report of the Secretary of Agriculture, 1906."—"Industrial Alcohol:
 Sources and Manufacture." By H. W. Wiley.—"Industrial Alcohol: Uses and Statistics."
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